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DICTIONARY FILE UPDATES: 28 APR 2008 HIGHEST RN 1017984-01-8

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=> file hcapl  
FILE 'HCAPLUS' ENTERED AT 16:44:41 ON 29 APR 2008  
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FILE COVERS 1907 - 29 Apr 2008 VOL 148 ISS 18  
FILE LAST UPDATED: 28 Apr 2008 (20080428/ED)

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=&gt; d que 175

L1 STR



VAR G1=O/S

NODE ATTRIBUTES:

NSPEC IS RC AT 1

NSPEC IS RC AT 2

NSPEC IS RC AT 3

NSPEC IS RC AT 4

NSPEC IS RC AT 5

DEFAULT MLEVEL IS ATOM

DEFAULT ELEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE

L7 SCR 501 OR 503

L14 17399 SEA FILE=REGISTRY ABB=ON "PHENOLIC RESIN"/PCT

L30 102013 SEA FILE=HCAPLUS ABB=ON "PHENOLIC RESINS"+NT,PFT/CT

L32 19974 SEA FILE=HCAPLUS ABB=ON "PRINTING PLATES"+NT,PFT/CT

L56 44641 SEA FILE=HCAPLUS ABB=ON L14

L58 112758 SEA FILE=HCAPLUS ABB=ON L30 OR L56

L59 2138 SEA FILE=HCAPLUS ABB=ON L58 AND L32

L60 3366 SEA FILE=HCAPLUS ABB=ON L58 AND LITHOG?

L63 3711 SEA FILE=HCAPLUS ABB=ON L59 OR L60

L65 SEL L63 1- RN : 14431 TERMS

L66 14431 SEA FILE=REGISTRY ABB=ON L65

L69 368 SEA FILE=REGISTRY SUB=L66 SSS FUL L1 AND L7

L71 7705 SEA FILE=HCAPLUS ABB=ON L69/D

L72 23 SEA FILE=HCAPLUS ABB=ON L71 AND L63

L75 17 SEA FILE=HCAPLUS ABB=ON L72 AND (1840-2003)/PRY,AY,PY

=&gt; d 175 bib abs hitind hitstr 1-17

L75 ANSWER 1 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:355014 HCAPLUS [Full-text](#)

DN 140:358214

TI Polymer for heat-sensitive lithographic printing plate precursor  
with good cured chemical resistance

IN Groenendaal, Bert; Loccufier, Johan; Van Aert, Huub; Van Damme, Marc

PA Agfa-Gevaert, Belg.

SO PCT Int. Appl., 47 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004035686	A2	20040429	WO 2003-EP50633	20030918 <--
	WO 2004035686	A3	20041021		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,

KATHLEEN FULLER EIC1700 571/272-2506

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SJ, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2003274112 A1 20040504 AU 2003-274112 20030918 <--  
 EP 1554346 A2 20050720 EP 2003-758095 20030918 <--  
 EP 1554346 B1 20080416

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

CN 1688657 A 20051026 CN 2003-824213 20030918 <--  
 JP 2006503143 T 20060126 JP 2004-544290 20030918 <--  
 US 20060144269 A1 20060706 US 2005-530992 20050916 <--

PRAI EP 2002-102444 A 20021015 <--  
 US 2002-420907P P 20021024 <--  
 WO 2003-EP50633 W 20030918 <--

AB A polymer for a heat-sensitive lithog. printing plate precursor is disclosed wherein the polymer comprises a phenolic monomeric unit wherein the H atom of the hydroxy group of the Ph group of the phenolic monomeric unit is replaced by a group comprising a N-imide group and wherein the substitution of the polymer increases the chemical resistance of the coating of the printing plate precursor. Thus, reacting N-(bromomethyl)phthalimide with Alnovol SPN 452 (novolak polymer) gave a modified resin useful for lithog. printing plate precursor.

IC ICM C08L061-14  
 CC 37-3 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 38, 74

ST lithog printing plate precursor prepn heat sensitive phenolic novolak

IT Phenolic resins, properties  
 RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (novolak, modified; polymer for heat-sensitive lithog. printing plate precursor with good cured chemical resistance)

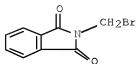
IT Positive photoresists  
 Printing plates  
 (polymer for heat-sensitive lithog. printing plate precursor with good cured chemical resistance)

IT 5332-26-3DP, N-(Bromomethyl)phthalimide, reaction products with novolak resins 17564-64-6DP, N-(Chloromethyl)phthalimide, reaction products with novolak resins 190346-90-5DP, Alnovol SPN 452, imide-modified products 681430-18-2DP, Alnovol HPN 100, imide-modified products  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polymer for heat-sensitive lithog. printing plate precursor with good cured chemical resistance)

IT 5332-26-3DP, N-(Bromomethyl)phthalimide, reaction products with novolak resins 17564-64-6DP, N-(Chloromethyl)phthalimide, reaction products with novolak resins 190346-90-5DP, Alnovol SPN 452, imide-modified products  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polymer for heat-sensitive lithog. printing plate precursor with good cured chemical resistance)

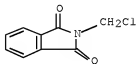
RN 5332-26-3 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-(bromomethyl)- (CA INDEX NAME)



RN 17564-64-6 HCAPLUS

CN 1H-Isoindole-1,3(2H)-dione, 2-(chloromethyl)- (CA INDEX NAME)



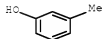
RN 100346-90-5 HCAPLUS

CN Formaldehyde, polymer with 2,5-dimethylphenol, 3-methylphenol and 4-methylphenol (CA INDEX NAME)

CM 1

CRN 108-39-4

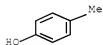
CMF C7 H8 O



CM 2

CRN 106-44-5

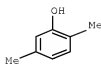
CMF C7 H8 O



CM 3

CRN 95-87-4

CMF C8 H10 O



CM 4

CRN 50-00-0

CMF C H2 O

H<sub>2</sub>C=O

L75 ANSWER 2 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:354986 HCAPLUS [Full-text](#)

DN 140:358210

TI Polymer for heat-sensitive lithographic printing plate precursor  
with good cured chemical resistance

IN Loccufier, Johan; Groenendaal, Bert; Van Aert, Huub; Van Damme, Marc

PA Agfa-Gevaert, Belg.

SO PCT Int. Appl., 55 pp.

CODEN: PIXXD2

DT Patent

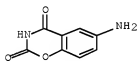
LA English

FAN.CNT 1

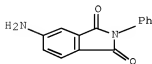
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004035645	A1	20040429	WO 2003-EP50657	20030925 <--
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	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2003278180	A1	20040504	AU 2003-278180	20030925 <--
	EP 1554324	A1	20050720	EP 2003-769495	20030925 <--
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	CN 1688625	A	20051026	CN 2003-824214	20030925 <--
	JP 2006503144	T	20060126	JP 2004-544292	20030925 <--
	US 20060019191	A1	20060126	US 2005-531629	20050701 <--
FRAI	EP 2002-102445	A	20021015	<--	
	US 2002-421540P	P	20021025	<--	
	WO 2003-EP50657	W	20030925	<--	

AB A polymer for a heat-sensitive lithog. printing plate precursor is disclosed wherein the polymer comprises a phenolic monomeric unit of which the Ph group is substituted by a group A characterized in that the group A comprises an imide or thioimide group and wherein the modification of the polymer increases the chemical resistance of the coating of the printing plate precursor. Thus,

- reacting a SO<sub>2</sub>C12-activated mercaptoaminothiadiazole succinimide with Alnovol SPN 452 (novolak resin) gave a modified product useful for printing plate precursor.
- IC ICM C08G008-28  
ICS C08L061-14; G03F007-105
- CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38, 74
- ST lithog printing plate manuf heat sensitive modified novolak resin
- IT Phenolic resins, properties  
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
(novolak, modified; polymer for heat-sensitive lithog.  
printing plate precursor with good cured chemical resistance)
- IT Positive photoresists  
Printing plates  
(polymer for heat-sensitive lithog. printing plate precursor  
with good cured chemical resistance)
- IT 4297-75-0DF, reaction products with novolaks 20871-03-8DF  
, reaction products with novolaks 100346-90-5F, Alnovol SPN 452  
681430-23-9DF, reaction products with novolaks  
681430-24-9DF, reaction products with novolaks  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polymer for heat-sensitive lithog. printing plate precursor  
with good cured chemical resistance)
- IT 4297-75-0DF, reaction products with novolaks 20871-03-8DF  
, reaction products with novolaks 100346-90-5F, Alnovol SPN 452  
681430-23-9DF, reaction products with novolaks  
681430-24-9DF, reaction products with novolaks  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polymer for heat-sensitive lithog. printing plate precursor  
with good cured chemical resistance)
- RN 4297-75-0 HCAPLUS
- CN 2H-1,3-Benzoxazine-2,4(3H)-dione, 6-amino- (CA INDEX NAME)



- RN 20871-03-8 HCAPLUS
- CN 1H-Isindole-1,3(2H)-dione, 5-amino-2-phenyl- (CA INDEX NAME)



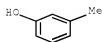
- RN 100346-90-5 HCAPLUS
- CN Formaldehyde, polymer with 2,5-dimethylphenol, 3-methylphenol and

4-methylphenol (CA INDEX NAME)

CM 1

CRN 108-39-4

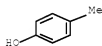
CMF C7 H8 O



CM 2

CRN 106-44-5

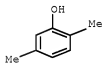
CMF C7 H8 O



CM 3

CRN 95-87-4

CMF C8 H10 O



CM 4

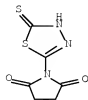
CRN 50-00-0

CMF C H2 O



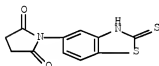
RN 681430-23-9 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-(4,5-dihydro-5-thioxo-1,3,4-thiadiazol-2-yl)- (CA INDEX NAME)



RN 681430-24-0 HCAPLUS

CN 2,5-Pyrrolidinedione, 1-(2,3-dihydro-2-thioxo-5-benzothiazolyl)- (CA INDEX NAME)



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L75 ANSWER 3 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2002:833363 HCAPLUS Full-text

DN 137:338583

TI Two-layer imageable element comprising thermally reversible hydrogen bonding polymers

IN Asawa, Yasuhiro; Ishizuka, Yasuhiro; Hayakawa, Eiji; Pappas, S. Peter

PA Kodak Polychrome Graphics, L.L.C., USA

SO U.S. Pat. Appl. Publ., 25 pp., Cont.-in-part of U.S. Ser. No. 751,650.  
CODEN: USXXCO

DT Patent

LA English

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20020160299	A1	20021031	US 2001-34982	20011228 <--
	US 6902860	B2	20050607		
	US 20020150833	A1	20021017	US 2000-751650	20001229 <--
	US 6506536	B2	20030114		
	WO 2002053626	A1	20020711	WO 2001-US32120	20011015 <--
	W: JP				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
PRAI	US 2000-751650	A2	20001229	<--	
	WO 2001-US32120	W	20011015	<--	

AB A two-layer imageable element comprises: a substrate; a top layer comprising a thermally imageable composition comprising: (a) a first thermally imageable composition comprising a first thermally sensitive supramol. polymer which exhibits an increased solubility in an aqueous developer solution upon exposure to heat; the first thermally sensitive supramol. polymer comprising: at least one covalently bonded unit; and at least one thermally reversible non-covalently bonded unit, which includes a two or more centered H-bond within each non-covalently bonded unit or (b) a thermally imageable composition free of the first thermally sensitive supramol. polymer; and

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disposed between the substrate and the top layer, a bottom layer comprising a second thermally imageable composition comprising a second thermally sensitive supramol. polymer which exhibits an increased solubility in an aqueous developer solution upon exposure to heat; the second thermally sensitive supramol. polymer comprising: at least one covalently bonded unit; and at least one thermally reversible non-covalently bonded unit, which includes a two or more centered H-bond within each the non-covalently bonded unit. The present invention also includes a method of producing the imaged element. A print plate composition contained a reaction product of Bakelite LB6564 and a quadrupole hydrogen bonding urea derivative prepared from 6-methylisocytosine and isophorone diisocyanate.

IC ICM C08G085-00  
ICS C07D239-46

INCL 430270100; X43-028.11; X43-028.61; X52-831.0; X52-817.2; X52-818.3;  
X52-822.9; X52-831.5

CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 74

IT Optical imaging devices  
Printing plates  
(two-layer imageable element comprising thermally reversible hydrogen bonding polymers)

IT Acrylic polymers, uses  
Phenolic resins, uses  
Polyesters, uses  
Polyurethanes, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(two-layer imageable element comprising thermally reversible hydrogen bonding polymers)

IT 9016-83-5DP, Cresol-formaldehyde copolymer, reaction products with quadrupole hydrogen bonding urea derivs.  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(novolak; two-layer imageable element comprising thermally reversible hydrogen bonding polymers)

IT 9039-25-2DP, Bakelite LB 6564, reaction products with quadrupole hydrogen bonding urea derivs. 24979-70-2DP, reaction products with quadrupole hydrogen bonding urea derivs. 441070-20-8P  
441070-21-9DP, reaction products with quadrupole hydrogen bonding urea derivs. 441070-22-0DP, reaction products with quadrupole hydrogen bonding urea derivs. 441070-23-1DP, reaction products with quadrupole hydrogen bonding urea derivs. 441070-24-2DP, reaction products with quadrupole hydrogen bonding urea derivs. 474003-53-7DP, reaction products with phenolic resins  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(two-layer imageable element comprising thermally reversible hydrogen bonding polymers)

IT 9016-83-5DP, Cresol-formaldehyde copolymer, reaction products with quadrupole hydrogen bonding urea derivs.  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(novolak; two-layer imageable element comprising thermally reversible hydrogen bonding polymers)

RN 9016-83-5 HCAPLUS

CN Formaldehyde, polymer with methylphenol (CA INDEX NAME)

CRN 1319-77-3  
CMF C7 H8 O  
CCI IDS



DI-OH

DI-Me

CM 2  
CRN 50-00-0  
CMF C H2 O

H2C=O

IT 9039-25-2DP, Bakelite LB 6564, reaction products with quadrupole hydrogen bonding urea derivs. 441070-21-9DP, reaction products with quadrupole hydrogen bonding urea derivs. 441070-22-0DP, reaction products with quadrupole hydrogen bonding urea derivs. 441070-23-1DP, reaction products with quadrupole hydrogen bonding urea derivs.  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(two-layer imageable element comprising thermally reversible hydrogen bonding polymers)  
RN 9039-25-2 HCAPLUS  
CN Formaldehyde, polymer with methylphenol and phenol (CA INDEX NAME)

CM 1  
CRN 1319-77-3  
CMF C7 H8 O  
CCI IDS



DI-OH

DI-Me

CM 2  
 CRN 108-95-2  
 CMF C6 H6 O

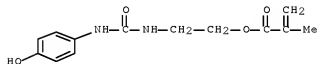


CM 3  
 CRN 50-00-0  
 CMF C H2 O

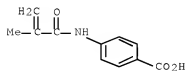


RN 441070-21-9 HCAPLUS  
 CN Benzoic acid, 4-[(2-methyl-1-oxo-2-propenyl)amino]-, polymer with  
 2-[[[(4-hydroxyphenyl)amino]carbonyl]amino]ethyl 2-methyl-2-propenoate,  
 1-phenyl-1H-pyrrole-2,5-dione and 2-propenenitrile (9CI) (CA INDEX NAME)

CM 1  
 CRN 184348-63-8  
 CMF C13 H16 N2 O4



CM 2  
 CRN 15286-99-4  
 CMF C11 H11 N O3



CM 3

CRN 941-69-5  
CMF C10 H7 N O2



CM 4

CRN 107-13-1  
CMF C3 H3 N



RN 441070-22-0 HCAPLUS  
CN Benzoic acid, 4-[(2-methyl-1-oxo-2-propenyl)amino]-, polymer with  
2-hydroxy-5-[(2-methyl-1-oxo-2-propenyl)amino]benzoic acid,  
1-phenyl-1H-pyrrole-2,5-dione and 2-propenenitrile (9CI) (CA INDEX NAME)

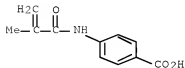
CM 1

CRN 53193-87-6  
CMF C11 H11 N O4



CM 2

CRN 15286-99-4  
CMF C11 H11 N O3



CM 3

CRN 941-69-5

CMF C10 H7 N O2



CM 4

CRN 107-13-1

CMF C3 H3 N



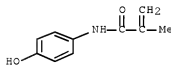
RN 441070-23-1 HCAPLUS

CM Benzoic acid, 4-[(2-methyl-1-oxo-2-propenyl)amino]-, polymer with  
 N-(4-hydroxyphenyl)-2-methyl-2-propenamide, 1-phenyl-1H-pyrrole-2,5-dione  
 and 2-propenenitrile (9CI) (CA INDEX NAME)

CM 1

CRN 19243-95-9

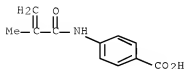
CMF C10 H11 N O2



CM 2

CRN 15286-99-4

CMF C11 H11 N O3



CM 3

CRN 941-69-5  
CMF C10 H7 N O2



CM 4

CRN 107-13-1  
CMF C3 H3 N

H2C=C=N

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L75 ANSWER 4 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2002:213732 HCAPLUS [Full-text](#)

DN 136:270600

TI Thermal digital lithographic printing plate

IN Savariar-Hauck, Celin; Shimazu, Ken-ichi; Timpe, Hans-Joachim; Patel, Jayanti; Huang, Jianbing

PA Kodak Polychrome Graphics LLC, USA

SO U.S., 13 pp., Cont.-in-part of U.S. Ser. No. 301,866.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 6

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6358669	B1	20020319	US 1999-469489	19991222 <--
	US 6352812	B1	20020305	US 1999-301866	19990429 <--
	EP 1506856	A2	20050216	EP 2004-78162	19990608 <--
	EP 1506856	A3	20050330		
	R: BE, DE, ES, FR, GB, IT, NL, SE				
	EP 1506857	A2	20050216	EP 2004-78163	19990608 <--
	EP 1506857	A3	20050330		
	EP 1506857	B1	20070425		
	R: BE, DE, ES, FR, GB, IT, NL, SE				
	ES 2253895	T3	20060601	ES 1999-928429	19990608 <--
	US 6534238	B1	20030318	US 2000-592895	20000613 <--
PRAI	US 1998-90300P	P	19980623	<--	
	US 1999-301866	A2	19990429	<--	
	EP 1999-928429	A3	19990608	<--	
	US 1999-469489	A2	19991222	<--	

AB A thermally imageable element, useful as a lithog. printing plate precursor that can be thermally imaged by imagewise exposure with a laser or a thermal printing head is disclosed. The element comprises a hydrophilic substrate; an underlayer comprising a 1st polymeric material; and an ink-receptive top layer

comprising a 2nd polymeric material. Preferably, the top layer comprises a compound that functions as a solubility-suppressing component. The solubility-suppressing component may be a sep. dissoln. inhibitor compound and/or the 2nd polymeric material may also function as a solubility-suppressing component. On thermal exposure, the exposed regions of the top layer becomes more readily soluble in an aqueous developer, allowing the developer to remove the top layer and reveal the surface of the hydrophilic substrate. The lithog. printing plate thus formed has excellent properties, including the absence of sludging of the developer.

IC ICM G03F007-09

INCL 430273100

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST thermal digital lithog printing plate Novolak sulfonamide imide amide; hydrophilic photothermal lithog printing plate

IT Phenolic resins, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(novolak; thermal digital lithog. printing plate having hydrophilic substrate and polymer underlayer containing photothermal conversion material)

IT Lithographic plates

(thermal imaging; thermal digital lithog. printing plate having hydrophilic substrate and polymer underlayer containing photothermal conversion material)

IT 2390-59-2 27754-99-0 134127-48-3, ADS 830A 184348-68-3 404928-04-7

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(thermal digital lithog. printing plate having hydrophilic substrate and polymer underlayer containing photothermal conversion material)

IT 63-74-1D, reaction products with GANTREZ AN119 131662-79-8D, reaction products with p-aminobenzenesulfonamide 321963-43-3 404927-95-3 404927-96-4

RL: TEM (Technical or engineered material use); USES (Uses)  
(thermal digital lithog. printing plate having hydrophilic substrate and polymer underlayer containing photothermal conversion material)

IT 131662-79-8D, reaction products with p-aminobenzenesulfonamide 404927-95-3 404927-96-4

RL: TEM (Technical or engineered material use); USES (Uses)  
(thermal digital lithog. printing plate having hydrophilic substrate and polymer underlayer containing photothermal conversion material)

RN 131662-79-8 HCAPLUS

CN 1H-Pyrrole-2,5-dione, polymer with methoxyethene (9CI) (CA INDEX NAME)

CM 1

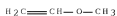
CRN 541-59-3

CMF C4 H3 N O2



CM 2

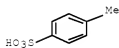
CRN 107-25-5  
CMF C3 H6 O



RN 404927-95-3 HCAPLUS  
CN Formaldehyde, polymer with 3-methylphenol, 4-methylbenzenesulfonate (CA INDEX NAME)

CM 1

CRN 104-15-4  
CMF C7 H8 O3 S

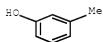


CM 2

CRN 25086-36-6  
CMF (C7 H8 O . C H2 O)x  
CCI PMS

CM 3

CRN 108-39-4  
CMF C7 H8 O



CM 4

CRN 50-00-0  
CMF C H2 O



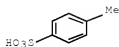
RN 404927-96-4 HCAPLUS  
CN Formaldehyde, polymer with 3-methylphenol and 4-methylphenol, 4-methylbenzenesulfonate (9CI) (CA INDEX NAME)



CM 1

CRN 104-15-4

CMF C7 H8 O3 S



CM 2

CRN 27029-76-1

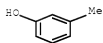
CMF (C7 H8 O . C7 H8 O . C H2 O) x

CCI PMS

CM 3

CRN 108-39-4

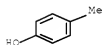
CMF C7 H8 O



CM 4

CRN 106-44-5

CMF C7 H8 O



CM 5

CRN 50-00-0

CMF C H2 O



RE.CNT 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L75 ANSWER 5 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

KATHLEEN FULLER EIC1700 571/272-2506

AN 1999:407139 HCAPLUS Full-text  
 DN 131:108934  
 TI Fabrication of patterned films with good heat and chemical resistance and epoxy resin-based solder resists therefor  
 IN Furusawa, Akira; Yoshikawa, Hiroshi; Iwasawa, Naozumi  
 PA Kansai Paint Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 13 pp.  
 CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11171952	A	19990629	JP 1997-336704	19971208 <--
PRAI	JP 1997-336704		19971208	<--	
AB	The solder resists, also useful for interlayer insulators of build-up circuit boards, comprise (A) aromatic epoxy resins having 0.3-1 mol (/1-kg resin) polymerizable unsatd. groups and 0.1-3 mol CH(OH)CH <sub>2</sub> W+O-COR1 [R1 = C1-8 hydrocarbyl, H; W = ZR2R3R4, SR2R3 (Z = N, P; R2-4 = C1-14 organic group)], (B) melamine resins chosen from (b1) 1:(1.5-4) (mol) reaction products of (C1-4-alkoxylated) hexamethylolmelamine and hydroxy-C2-4-alkyl (meth)acrylates or (b2) reaction products of 1 kg alkoxyated melamine resins and 2.5-8 mol hydroxy-C2-4-alkyl (meth)acrylates, and (C) photopolymn. initiators. The compns. may contain mica with average grain size 1-10 µm. Lithog. and coating film manufacture using the compns. and active beams are also claimed.				
IC	ICM C08F299-02				
	ICS C08F002-48; C08G059-14; C08G059-24; C08G059-40; C09D161-28; C09D163-10; G03F007-027; H05K003-28; H05K003-46				
CC	74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)				
	Section cross-reference(s): 38				
IT	64-19-7DP, Acetic acid, reaction products with vinyl ester resins and tert-amines and/or thioethers, reactions 79-10-7DP, Acrylic acid, reaction products with vinyl ester resins and tert-amines and/or thioethers 108-01-0DP, N,N-Dimethylethanolamine, reaction products with vinyl ester resins and organic acids 111-48-8DP, Thiodiglycol, reaction products with vinyl ester resins and organic acids 121-44-8DP, Triethylamine, reaction products with vinyl ester resins and organic acids 603-35-0DP, Triphenylphosphine, reaction products with vinyl ester resins and organic acids 818-61-1DP, 2-Hydroxyethyl acrylate, reaction products with methoxymethylolmelamine 868-77-9DP, 2-Hydroxyethyl methacrylate, reaction products with melamine resin 2439-35-2DP, reaction products with vinyl ester resins and organic acids 3089-11-0DP, Hexamethoxymethylmelamine, reaction products with hydroxyethyl acrylate 9003-08-1DP, Melamine resin, reaction products with hydroxyethyl methacrylate 55818-57-0DP, Epikote 1004 acrylate, reaction products with triethylamine and acrylic acid 58607-87-7DP, Hexamethoxymethylolmelamine, reaction products with hydroxyethyl acrylate 92880-74-5DP, Epikote 154 acrylate, reaction products with N,N-dimethylethanolamine and acetic acid 123997-47-7DP, Epikote 190S80 acrylate, reaction products with thiodiglycol and acrylic acid 124449-64-5DP, reaction products with triphenylphosphine and N,N-dimethylethanolamine 230966-01-5DP, Epikote 154 acrylate-2-hydroxyethyl acrylate-tolylene diisocyanate copolymer, reaction products with thioethers and organic acids				
	RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses) (chemical- and heat-resistant solder resists comprising apotic-onium-salt-containing epoxy resins and melamine resins)				

IT 124449-64-5DP, reaction products with triphenylphosphine and N,N-dimethylethanolamine 230966-01-5DP, Epikote 154 acrylate-2-hydroxyethyl acrylate-tolylene diisocyanate copolymer, reaction products with thioethers and organic acids  
 RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses) (chemical- and heat-resistant solder resists comprising aprotic-onium-salt-containing epoxy resins and melamine resins)

RN 124449-64-5 HCAPLUS

CN 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(oxiranylmethyl)-, homopolymer, 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-41-4

CMF C4 H6 O2



CM 2

CRN 28825-96-9

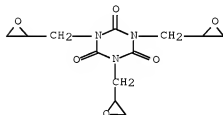
CMF (C12 H15 N3 O6)x

CCI PMS

CM 3

CRN 2451-62-9

CMF C12 H15 N3 O6



RN 230966-01-5 HCAPLUS

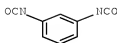
CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,3-diisocyanatomethylbenzene and Epikote 154 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 26471-62-5

CMF C9 H6 N2 O2

CCI IDS



DI-Me

CM 2

CRN 818-61-1

CMF C5 H8 O3



CM 3

CRN 92880-74-5

CMF C3 H4 O2 . x Unspecified

CM 4

CRN 63939-13-9

CMF Unspecified

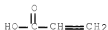
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 5

CRN 79-10-7

CMF C3 H4 O2



L75 ANSWER 6 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1999:388532 HCAPLUS [Full-text](#)

DN 131:80806

TI Light-heat-conversion recording material and lithographic plate using same

IN Kuroki, Takaaki; Kojima, Yasuo; Akiyama, Takeo; Hiraoka, Saburo

PA Konica Co., Japan

SO Jpn. Kokai Tokkyo Koho, 22 pp.

CODEN: JKXXAF

DT Patent

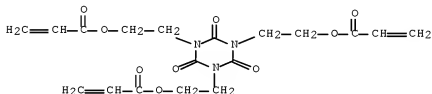
LA Japanese

FAN.CNT 1

KATHLEEN FULLER EIC1700 571/272-2506

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11160858	A	19990618	JP 1997-330090	19971201 <--
PRAI	JP 1997-330090		19971201	<--	
AB	In the title recording material used in an imaging method in which a donor sheet is contacted with an acceptor sheet and imagewise exposed to transfer a substance, the donor sheet contains a compound reactive with the surface of the acceptor sheet at least in its surface layer. The lithog. plate material is the recording material in which the acceptor sheet is a hydrophilic support reactive with the surface of the donor sheet. The recording material is useful as a lithog. plate with good printability which can use the support of the conventional presensitized lithog. plates and shows improved printing durability, photosensitivity, and resolution				
IC	ICM G03F007-00				
	ICS G03F007-004; G03F007-016; G03F007-26				
CC	74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)				
ST	donor sheet presensitized lithog plate; light heat conversion lithog plate; acceptor sheet presensitized lithog plate				
IT	Polyurethanes, uses				
	RL: DEV (Device component use); USES (Uses) (acrylic, donor sheet; light-heat conversion presensitized lithog. plate comprising donor and acceptor sheets)				
IT	Thermal-transfer printing (light-heat conversion presensitized lithog. plate comprising donor and acceptor sheets)				
IT	Acrylic polymers, uses				
	RL: DEV (Device component use); USES (Uses) (polyurethane-, donor sheet; light-heat conversion presensitized lithog. plate comprising donor and acceptor sheets)				
IT	Lithographic plates (presensitized; light-heat conversion presensitized lithog. plate comprising donor and acceptor sheets)				
IT	2530-85-0				
	RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses) (acceptor sheet coated with; light-heat conversion presensitized lithog. plate comprising donor and acceptor sheets)				
IT	37321-70-3, AA 1050				
	RL: DEV (Device component use); USES (Uses) (acceptor sheet; light-heat conversion presensitized lithog. plate comprising donor and acceptor sheets)				
IT	102772-82-7P, Acrylonitrile-ethyl methacrylate-methacrylic acid-methyl methacrylate copolymer 229161-69-7P, Acrylonitrile-ethyl methacrylate-2-hydroxyethyl methacrylamide-lauryl acrylate-methacrylic acid-methyl methacrylate copolymer				
	RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses) (donor sheet; light-heat conversion presensitized lithog. plate comprising donor and acceptor sheets)				
IT	7646-85-7DP, Zinc chloride, reaction products with ammonium hexafluorophosphate and diazo resin 16941-11-ODP, Ammonium hexafluorophosphate, reaction products with zinc chloride and diazo resin				
	RL: DEV (Device component use); PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (donor sheet; light-heat conversion presensitized lithog. plate comprising donor and acceptor sheets)				
IT	25067-24-7, Poly(tetramethylene glycol) diacrylate 40220-08-4D, ethoxylated 122177-35-9, Kayasorb CY 9 161544-89-4, NK Oligo U 15HA				
	RL: DEV (Device component use); TEM (Technical or engineered material				

- use); USES (Uses)  
 (donor sheet; light-heat conversion presensitized lithog.  
 plate comprising donor and acceptor sheets)
- IT 229161-71-1BP, reaction products with zinc chloride and ammonium  
 hexafluorophosphate  
 RL: DEV (Device component use); PNU (Preparation, unclassified); TEM  
 (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (light-heat conversion presensitized lithog. plate comprising  
 donor and acceptor sheets)
- IT 40220-08-4D, ethoxylated  
 RL: DEV (Device component use); TEM (Technical or engineered material  
 use); USES (Uses)  
 (donor sheet; light-heat conversion presensitized lithog.  
 plate comprising donor and acceptor sheets)
- RN 40220-08-4 HCAPLUS
- CN 2-Propenoic acid, 1,1',1''-[(2,4,6-trioxo-1,3,5-triazine-1,3,5(2H,4H,6H)-  
 triyl)tri-2,1-ethanediyl] ester (CA INDEX NAME)

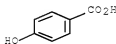


- IT 229161-71-1BP, reaction products with zinc chloride and ammonium  
 hexafluorophosphate  
 RL: DEV (Device component use); PNU (Preparation, unclassified); TEM  
 (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (light-heat conversion presensitized lithog. plate comprising  
 donor and acceptor sheets)
- RN 229161-71-1 HCAPLUS
- CN Benzenediazonium, 4-amino-, sulfate (1:1), polymer with formaldehyde and  
 4-hydroxybenzoic acid (9CI) (CA INDEX NAME)

CM 1

CRN 99-96-7

CMF C7 H6 O3



CM 2

CRN 50-00-0

CMF C H2 O



CM 3

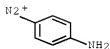
CRN 89933-87-9

CMF C6 H6 N3 . H O4 S

CM 4

CRN 19089-86-2

CMF C6 H6 N3



CM 5

CRN 14996-02-2

CMF H O4 S



L75 ANSWER 7 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1998:25432 HCAPLUS Full-text

DN 128:116385

TI Polyfunctional aromatic vinyl ethers, their quick-curing compositions, and their cured products

IN Noji, Minoru; Okihara, Rieko; Uchida, Makoto

PA Nippon Kayaku Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10001540	A	19980106	JP 1996-177306	19960618 <--
PRAI	JP 1996-177306		19960618	<--	
AB	The vinyl ethers useful for inks, coatings, adhesives, resists, lithog., etc. are odorless and nonirritating to the skin and are prepared by the vinyl etherification of the OH groups of novolak resins. Thus, 42 g 2-chloroethyl vinyl ether was dropwise added to a mixture of 36.6 g OHC6H4CH2C6H4C6H4CH2C6H3OHCH2C6H4C6H4CH2C6H4OH and 12 g KOH in DMSO at 70°, heated at 75-80° for 5 h to obtain a polyfunctional vinyl ether, mixed (10				

parts) with 0.1 part Adeka Optomer SP-170 (cationic photopolymn. initiator) and 3 parts MEK, coated, and cured.

IC ICM C08G065-32

CC 42-10 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 74

ST novolak vinyl ether photopolymn; coating ink adhesive polyfunctional vinyl ether; resist lithog polyfunctional arom vinyl ether; phenol naphthol vinyl ether manuf polymerizable

IT Phenolic resins, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(novolak, reaction product with chloroethyl vinyl ether; quick-curing comps. containing polyfunctional aromatic vinyl ethers)

IT 541-59-3DP, Maleimide, polymers with aromatic vinyl ethers  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(quick-curing comps. containing polyfunctional aromatic vinyl ethers)

IT 110-75-8DP, 2-Chloroethyl vinyl ether, reaction products with novolak resins 68859-34-7DP, BREN, reaction product with chloroethyl vinyl ether 128761-46-6DP, p-Dialdehydobenzene-phenol copomer, reaction product with chloroethyl vinyl ether 137961-15-0DP, 4,4'-Biphenol-formaldehyde-phenol copolymer, reaction product with chloroethyl vinyl ether 139615-22-8DP, Kayahard NHH, reaction product with chloroethyl vinyl ether 201552-14-9DP, reaction product with chloroethyl vinyl ether  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(quick-curing comps. containing polyfunctional aromatic vinyl ethers)

IT 541-59-3DP, Maleimide, polymers with aromatic vinyl ethers  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(quick-curing comps. containing polyfunctional aromatic vinyl ethers)

RN 541-59-3 HCAPLUS

CN 1H-Pyrrole-2,5-dione (CA INDEX NAME)



IT 68859-34-7DP, BREN, reaction product with chloroethyl vinyl ether 128761-46-6DP, p-Dialdehydobenzene-phenol copomer, reaction product with chloroethyl vinyl ether 137961-15-0DP, 4,4'-Biphenol-formaldehyde-phenol copolymer, reaction product with chloroethyl vinyl ether 201552-14-9DP, reaction product with chloroethyl vinyl ether  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(quick-curing comps. containing polyfunctional aromatic vinyl ethers)

RN 68859-34-7 HCAPLUS

CN BREN (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 128761-46-6 HCAPLUS

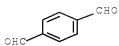
CN 1,4-Benzenedicarboxaldehyde, polymer with phenol (9CI) (CA INDEX NAME)

CM 1

CRN 623-27-8

CMF C8 H6 O2





CM 2

CRN 108-95-2

CMF C6 H6 O



RN 137961-15-0 HCAPLUS

CN Formaldehyde, polymer with [1,1'-biphenyl]-4,4'-diol and phenol (9CI) (CA INDEX NAME)

CM 1

CRN 108-95-2

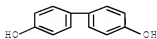
CMF C6 H6 O



CM 2

CRN 92-88-6

CMF C12 H10 O2



CM 3

CRN 50-00-0

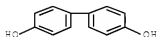
CMF C H2 O



RN 201552-14-9 HCAPLUS  
CN Formaldehyde, polymer with [1,1'-biphenyl]-4,4'-diol and 1-naphthalenol  
(9CI) (CA INDEX NAME)

CM 1

CRN 92-88-6  
CMF C12 H10 O2



CM 2

CRN 90-15-3  
CMF C10 H8 O



CM 3

CRN 50-00-0  
CMF C H2 O



L75 ANSWER 8 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 1997:740056 HCAPLUS [Full-text](#)  
DN 128:41638  
TI Heat-sensitive composition and method of making lithographic  
plate using it  
IN Parsons, Gareth Rhodri; Riley, David Stephen; Hoare, Richard David; Monk,  
Alan Stanley Victor  
PA Horsell Graphic Industries Limited, UK; Parsons, Gareth Rhodri; Riley,  
David Stephen; Hoare, Richard David; Monk, Alan Stanley Victor  
SO PCT Int. Appl., 38 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 2  
PATENT NO. KIND DATE APPLICATION NO. DATE

PI WO 9739894 A1 19971030 WO 1997-GB1117 19970422 <--  
W: AU, BR, CA, CN, CZ, GB, IL, JP, KR, NO, NZ, PL, RU, US, VN  
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE  
WO 9707986 A2 19970306 WO 1996-GB1973 19960813 <--  
WO 9707986 A3 20010913  
W: AU, BR, CA, CN, GB, JP, MX, RU, US  
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE  
AU 9723966 A 19971112 AU 1997-23966 19970422 <--  
AU 707872 B2 19990722  
EP 825927 A1 19980304 EP 1997-919526 19970422 <--  
EP 825927 B1 19990811  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, FI  
GB 2317457 A 19980325 GB 1997-25216 19970422 <--  
GB 2317457 B 19990526  
JP 11506550 T 19990608 JP 1997-537850 19970422 <--  
JP 3147908 B2 20010319  
BR 9702181 A 19991228 BR 1997-2181 19970422 <--  
RU 2153986 C2 20000810 RU 1998-101117 19970422 <--  
IL 122318 A 20010128 IL 1997-122318 19970422 <--  
DE 29724584 U1 20020523 DE 1997-29724584 19970422 <--  
US 6280899 B1 20010828 US 2000-483990 20000118 <--  
PRAI GB 1996-8394 A 19960423 <--  
GB 1996-14693 A 19960712 <--  
WO 1996-GB1973 A 19960813 <--  
GB 1997-884 A 19970117 <--  
GB 1995-16723 A 19950815 <--  
WO 1997-GB1117 W 19970422 <--  
US 1997-981620 B3 19971222 <--  
AB There is described coated on a lithog. plate base a complex of a developer-insol. phenolic resin and a compound which forms a thermally frangible complex with the phenolic resin. This complex is less soluble in the developer solution than the uncomplexed phenolic resin. However when this complex is imagewise heated the complex breaks down so allowing the uncomplexed phenolic resin to be dissolved in the developing solution. Thus the solubility differential between the heated areas of the phenolic resin and the unheated areas is increased when the phenolic resin is complexed. Preferably a laser radiation-absorbing material is also present on the lithog. base. A large number of compds. which form a thermally frangible complex with the phenolic resin are disclosed. Examples of such compds. are quinolinium compds., benzothiazolium compds., pyridinium compds. and imidazoline compds.  
IC ICM B41C001-10  
ICS B41M005-36  
CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
ST thermal lithog plate phenolic resin complex  
IT Phenolic resins, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(R 17620; lithog. plate manufacture using heat-sensitive recording materials containing thermally frangible)  
IT Phenolic resins, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(complexes; heat-sensitive recording materials for lithog. plate manufacture containing thermally frangible)  
IT Lithographic plates  
(heat-sensitive recording materials containing thermally frangible phenolic resin complexes for manufacture of)  
IT Recording materials  
(thermal; containing thermally frangible phenolic resin complexes for

manufacture of lithog. plates)  
IT 9039-25-2, Bakelite LB 6564  
RL: TEM (Technical or engineered material use); USES (Uses)  
(Bakelite LB 6564; lithog. plate manufacture using heat-sensitive recording materials containing thermally frangible)  
IT 199444-11-6, KF 654B-PINA  
RL: TEM (Technical or engineered material use); USES (Uses)  
(KF 654B-PINA; lithog. plate manufacture using heat-sensitive recording materials containing thermally frangible)  
IT 9093-35-4, Phenol-formaldehyde polymer  
RL: TEM (Technical or engineered material use); USES (Uses)  
(R 17620; lithog. plate manufacture using heat-sensitive recording materials containing thermally frangible)  
IT 80-40-0D, Ethyl p-toluenesulfonate, complexes with phenolic resins  
84-11-7D, Phenanthrenequinone, complexes with phenolic resins 90-47-1D,  
Xanthone, complexes with phenolic resins 98-59-9D, p-Toluenesulfonyl  
chloride, complexes with phenolic resins 119-61-9D, Benzophenone,  
complexes with phenolic resins 140-72-7D, Cetylpyridinium bromide,  
complexes with phenolic resins 487-26-3D, Flavanone, complexes with  
phenolic resins 494-38-2D, Acridine Orange Base, complexes with phenolic  
resins 525-82-6D, Flavone, complexes with phenolic resins 548-62-9D,  
Crystal violet, complexes with phenolic resins 604-59-1D,  
 $\alpha$ -Naphthoflavone, complexes with phenolic resins 634-21-9D,  
complexes with phenolic resins 1745-32-0D, 3-Ethyl-2-[3-ethyl-  
2(3H)benzothiazolylidene]-2-methyl-1-propenyl]benzothiazolium bromide,  
complexes with phenolic resins 1801-42-9D, complexes with phenolic  
resins 3119-93-5D, 3-Ethyl-2-methylbenzothiazolium iodide, complexes  
with phenolic resins 5394-18-3D, N-(4-Bromobutyl)phthalimide,  
complexes with phenolic resins 6051-87-2D,  $\beta$ -Naphthoflavone,  
complexes with phenolic resins 8044-71-1D, Cetrime, complexes with  
phenolic resins 9004-39-1D, Cellulose acetate propionate, complexes  
9011-13-6D, Maleic anhydride-styrene copolymer, ester derivs., complexes  
18300-31-7D, 1-Ethyl-4-[5-(1-ethyl-4(1H)quinolinylidene)-1,3-  
pentadienyl]quinolinium iodide, complexes with phenolic resins  
24979-70-2D, Maruka Lyncur MS-2, complexes 50774-69-1D, complexes with  
phenolic resins 52229-50-2D, Gantrez An119, complexes 53320-66-4D,  
Monazoline C, complexes with phenolic resins 53721-12-3D, complexes with  
phenolic resins 134127-48-3 199487-83-7D, Ronacoat 300, complexes  
199487-84-8D, SMA 2625P, complexes 199487-85-9D, SMD 995, complexes  
RL: TEM (Technical or engineered material use); USES (Uses)  
(lithog. plate manufacture using heat-sensitive recording  
materials containing thermally frangible)  
IT 9039-25-2, Bakelite LB 6564  
RL: TEM (Technical or engineered material use); USES (Uses)  
(Bakelite LB 6564; lithog. plate manufacture using heat-sensitive  
recording materials containing thermally frangible)  
RN 9039-25-2 HCAPLUS  
CN Formaldehyde, polymer with methylphenol and phenol (CA INDEX NAME)

CM 1

CRN 1319-77-3

CMF C7 H8 O

CCI IDS



D1—OH

D1—Me

CM 2

CRN 108-95-2

CMF C6 H6 O



CM 3

CRN 50-00-0

CMF C H2 O

 $\text{H}_2\text{C}=\text{O}$ 

IT 9003-35-4, Phenol-formaldehyde polymer

RL: TEM (Technical or engineered material use); USES (Uses)

(R 17620; lithog. plate manufacture using heat-sensitive recording materials containing thermally frangible)

RN 9003-35-4 HCAPLUS

CN Phenol, polymer with formaldehyde (CA INDEX NAME)

CM 1

CRN 108-95-2

CMF C6 H6 O



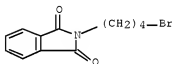
CM 2

CRN 50-00-0

CMF C H2 O

H<sub>2</sub>C=O

IT 5394-18-3D, N-(4-Bromobutyl)phthalimide, complexes with phenolic resins  
 RL: TEM (Technical or engineered material use); USES (Uses) (lithog. plate manufacture using heat-sensitive recording materials containing thermally frangible)  
 RN 5394-18-3 HCAPLUS  
 CN 1H-Isindole-1,3(2H)-dione, 2-(4-bromobutyl)- (CA INDEX NAME)



L75 ANSWER 9 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1996:332355 HCAPLUS [Full-text](#)  
 DN 125:22363  
 TI Diazo compound, photosensitive lithographic printing plate using same and development of printing plate  
 IN Konuma, Tomohito; Matsumura, Tomoyuki; Oota, Tomohisa; Murata, Masahisa; Tsuji, Shigeo  
 PA Konishiroku Photo Ind, Japan; Mitsubishi Chemical Corp.  
 SO Jpn. Kokai Tokkyo Koho, 28 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08059589	A	19960305	JP 1994-214312	19940817 <--
PRAI	JP 1994-214312		19940817	<--	
AB	The title diazo compound is obtained by adding group -N=N-X- (X = counter anion for diazonium group) in a ring opening addition reaction to a polyfunctional epoxy compound oxirane ring. 6 Modifications of the diazo compound and printing plate having the diazo compound in its photosensitive layer are also claimed.				
IC	ICM C07C245-20				
	ICS G03F007-00; G03F007-016; G03F007-021; G03F007-30				
CC	74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)				
ST	diazo compd lithog printing plate				
IT	lithographic plates (diazo compound (polymer) for)				
IT	25417-20-3DP, Sodium dibutyl naphthalene sulfonate, reaction product with diazo prepolymer 177164-60-2DP, reaction product with ammonium hexafluorophosphate 177164-62-4DP, reaction product with ammonium hexafluorophosphate 177164-65-7DP, reaction product with ammonium hexafluorophosphate 177164-66-8DP, reaction product with sodium di-Bu naphthalene sulfonate 177164-67-9DP, reaction product with sodium di-Bu naphthalene sulfonate 177164-68-0DP, reaction product with				

sodium di-Bu naphthalene sulfonate 177164-69-1DP, reaction product with sodium di-Bu naphthalene sulfonate 177164-70-4DP, reaction product with sodium di-Bu naphthalene sulfonate 177164-71-5DP, reaction product with sodium di-Bu naphthalene sulfonate 177164-72-6DP, reaction product with sodium di-Bu naphthalene sulfonate 177164-73-7DP, reaction product with sodium di-Bu naphthalene sulfonate 177164-74-8DP, reaction product with sodium di-Bu naphthalene sulfonate 177164-75-9DP, reaction product with sodium di-Bu naphthalene sulfonate 177164-77-1DP, reaction product with sodium di-Bu naphthalene sulfonate 177164-79-3DP, reaction product with sodium di-Bu naphthalene sulfonate 177589-22-9DP, reaction product with sodium di-Bu naphthalene sulfonate 177617-55-9DP, reaction product with sodium di-Bu naphthalene sulfonate

RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(prepared for photosensitive lithog. printing plate)

IT 177164-68-0DP, reaction product with sodium di-Bu naphthalene sulfonate 177164-69-1DP, reaction product with sodium di-Bu naphthalene sulfonate 177164-70-4DP, reaction product with sodium di-Bu naphthalene sulfonate 177164-72-6DP, reaction product with sodium di-Bu naphthalene sulfonate 177164-73-7DP, reaction product with sodium di-Bu naphthalene sulfonate 177164-74-8DP, reaction product with sodium di-Bu naphthalene sulfonate

RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(prepared for photosensitive lithog. printing plate)

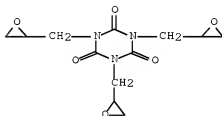
RN 177164-68-0 HCAPLUS

CN Acetamide, N-(4-aminophenyl)-N-methyl-, polymer with 1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)

CM 1

CRN 2451-62-9

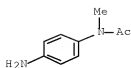
CMF C12 H15 N3 O6



CM 2

CRN 119-63-1

CMF C9 H12 N2 O



RN 177164-69-1 HCAPLUS  
CN Acetamide, N-(4-aminophenyl)-N-methyl-, polymer with Araldite EPN 1138  
(9CI) (CA INDEX NAME)

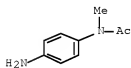
CM 1

CRN 39362-23-7  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 119-63-1  
CMF C9 H12 N2 O



RN 177164-70-4 HCAPLUS  
CN Acetamide, N-(4-aminophenyl)-N-methyl-, polymer with Araldite ECN 1299  
(9CI) (CA INDEX NAME)

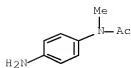
CM 1

CRN 37348-54-2  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 119-63-1  
CMF C9 H12 N2 O





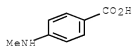
RN 177164-72-6 HCAPLUS

CN Benzoic acid, 4-(methylamino)-, polymer with N-(4-aminophenyl)-N-methylacetamide and 1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)

CM 1

CRN 10541-83-0

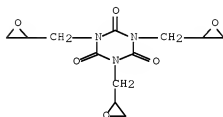
CMF C8 H9 N O2



CM 2

CRN 2451-62-9

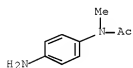
CMF C12 H15 N3 O6



CM 3

CRN 119-63-1

CMF C9 H12 N2 O



RN 177164-73-7 HCAPLUS

CN Benzoic acid, 4-(methylamino)-, polymer with N-(4-aminophenyl)-N-methylacetamide and Araldite EPN 1138 (9CI) (CA INDEX NAME)

CM 1

CRN 39362-23-7

CMF Unspecified

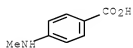
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 10541-83-0

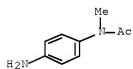
CMF C8 H9 N O2



CM 3

CRN 119-63-1

CMF C9 H12 N2 O



RN 177164-74-8 HCAPLUS

CN Benzoic acid, 4-(methylamino)-, polymer with N-(4-aminophenyl)-N-methylacetamide and Araldite ECN 1299 (9CI) (CA INDEX NAME)

CM 1

CRN 37348-54-2

CMF Unspecified

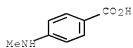
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 10541-83-0

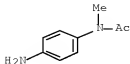
CMF C8 H9 N O2



CM 3

CRN 119-63-1

CMF C9 H12 N2 O



L75 ANSWER 10 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 1994:591039 HCAPLUS [Full-text](#)  
DN 121:191039  
TI Improved underlayers for acid amplified resists  
AU Sachdev, H. S.; Kwong, R. W.; Katnani, A.; Kwietniak, K. T.; Rosenfield, M. G.; Coane, P. J.  
CS IBM - Microelectron. Div., Hopewell Junction, NY, USA  
SO Microelectronic Engineering (1994), 23(1-4), 327-30  
CODEN: MIENEF; ISSN: 0167-9317  
DT Journal  
LA English  
AB Acid amplified resists represent a major development in lithog. in the last few years. It is recognized that for precise CD control with these resists in device manufacturing, it is required that the processing environment be free of any basic contaminants. Top coat protection of the resist films in conjunction with rigorous exclusion of basic chemical vapors in the work area has been recommended to minimize the effects of environmental contaminants. Another important variable in determining the resist performance is the effect of substrate chemical which has received little attention in the literature. This paper provides an understanding of these effects and gives a general method to circumvent the problem.  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
IT Phenolic resins, uses  
RL: USES (Uses)  
(novolak, resist-protective undercoat formulation containing)  
IT 4375-09-1D, Imidodicarbonic acid, derivs.  
RL: USES (Uses)  
(photoacid generator for acid amplified resist)  
IT 4375-09-1D, Imidodicarbonic acid, derivs.  
RL: USES (Uses)  
(photoacid generator for acid amplified resist)  
RN 4375-09-1 HCAPLUS  
CN Imidodicarbonic acid (CA INDEX NAME)



L75 ANSWER 11 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 1994:90539 HCAPLUS [Full-text](#)  
DN 120:90539  
TI Photoreactive fluorinated polyimide protected by tetrahydropyranyl (THP) group based on chemical amplification: acid generation in polyimide film and lithographic properties

AU Naitoh, Kazuhiko; Ishii, Kazuhisa; Yamaoka, Tsuguo; Omote, Toshihiko  
CS Fac. Eng., Chiba Univ., Chiba, 263, Japan  
SO Polymers for Advanced Technologies (1993), 4(4), 294-301  
CODEN: PADTE5; ISSN: 1042-7147

DT Journal

LA English

AB The photochem. of photoacid generator (PAG), diphenyliodonium 9,10-dimethoxyanthracene-2-sulfonate (DIAS) and diphenyliodonium 8-anilidonaphthalene-1-sulfonate (DIANS) was investigated in both alkaline-soluble polyimide (6FDA-AHHFP) prepared from [trifluoro(trifluoromethyl)ethylidene]bis(isobenzofurandione) and bis(aminohydroxyphenyl)hexafluoropropane, and in novolak films. The quantum yields of photodissocn. of DIAS and DIANS in both 6FDA-AHHFP and novolak films were 0.11, 0.21, 0.12 and 0.26, resp. The quantum yields for acid generation from DIAS and DIANS in both of these films were 0.07, 0.18, 0.09 and 0.22, resp. The values of the quantum yields of photodissocn. and photoacid formation for DIAS and DIANS in 6FDA-AHHFP film are lower than those in novolak films. Fluorescence quenchings of sodium 9,10-dimethoxyanthracene-2-sulfonate and ammonium 8-anilidonaphthalene-1-sulfonate by a model compound of polyimide was carried out in acetonitrile. The fluorescences of these two salts were efficiently quenched by the model compound with the diffusion-controlled rate constant in acetonitrile, suggesting that a strong electron-accepting capability of the imide carbonyl group may hinder the electron transfer process within PAC mols. in 6FDA-AHHFP film. Although a polyimide (6F-THP) protected by tetrahydropyranyl group is insol. in aqueous base, 6F-THP film containing PAG became soluble in a 2:1 mixture of 2.0 weight% tetramethylammonium hydroxide (TMAH) and methanol by exposure to 365 nm light and successive post-exposure baking (PEB) at 120° for 10 min. The sensitivity and contrast 6F-THP with DIANS after the PEB conditions above were 110 mJ/cm<sup>2</sup> and 3.7, resp. A high-resolution pattern with a good profile was transferred into the 3 µm thickness of the 6F-THP film.

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

ST Lithog. acid generation pyranil protected polyimide;  
photoactive fluorinated pyranil acid generation; photochem photoacid generator novolak polyimide photoresist; diphenyliodonium dimethoxyanthracenesulfonate anilidonaphthalenesulfonate photolysis novolak polyimide

IT Phenolic resins, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(novolak, photolysis of iodonium salt photoacid generators and)

IT 110-87-2D, reaction products with polymer 6FDA-AHHFP 121333-85-5D,  
reaction products with 3,4-dihydro-2H-pyran 121334-09-6D,  
reaction products with 3,4-dihydro-2H-pyran

RL: USES (Uses)

(lithog. performance of photoresist system containing anilidonaphthalenesulfonate and)

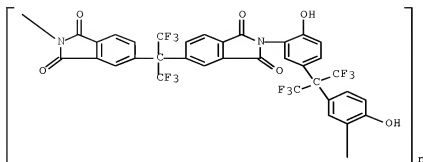
IT 121334-09-6D, reaction products with 3,4-dihydro-2H-pyran

RL: USES (Uses)

(lithog. performance of photoresist system containing anilidonaphthalenesulfonate and)

RN 121334-09-6 HCAPLUS

CN Poly[(1,3-dihydro-1,3-dioxo-2H-isoindole-2,5-diyl)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](1,3-dihydro-1,3-dioxo-2H-isoindole-5,2-diyl)(6-hydroxy-1,3-phenylene)[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene](4-hydroxy-1,3-phenylene)] (CA INDEX NAME)



L75 ANSWER 12 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1994:56903 HCAPLUS [Full-text](#)

DN 120:56903

TI Rosin-modified phenolic resins for printing inks with excellent scumming resistance

IN Kadokuma, Takashi; Arimoto, Kazuhiro

PA Arakawa Chem Ind, Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05222144	A	19930831	JP 1992-59692	19920213 <--
	JP 3166274	B2	20010514		
PRAI	JP 1992-59692		19920213	<--	

AB Title resins, useful as binders for waterless lithog. inks, contain rosin-modified phenolic resins treated with isocyanuric acids. Thus, 1700 parts gum rosin and 1400 parts p-octylphenol-HCHO copolymer were heated at 250-260° for 3 h and treated with 90 parts tris(2-hydroxyethyl) isocyanurate and 130 parts glycerin to give a polymer, which was used as a binder for a waterless lithog. ink.

IC ICM C08G008-34

ICS C09D011-10

CC 42-12 (Coatings, Inks, and Related Products)

IT Resin acids and Rosin acids

RL: USES (Uses)

(esters, reaction products with phenolic resins and isocyanurates, binders, for waterless lithog. inks, with good scumming resistance)

IT Inks

(lithog., waterless, binders for, rosin- and isocyanurate-modified phenolic resins as, with good scumming resistance)

IT Urethane polymers, uses

RL: USES (Uses)

(phenolic, binders, for waterless lithog. inks, with good scumming resistance)

IT Phenolic resins, uses

RL: USES (Uses)

(polyurethane-, binders, for waterless lithog. inks, with good scumming resistance)

IT Phenolic resins, compounds

KATHLEEN FULLER EIC1700 571/272-2506

RL: USES (Uses)

(reaction products, with rosins and isocyanurates, for waterless lithog. ink binders, with good scumming resistance)

- IT 56-81-5DP, Glycerin, reaction products with rosin-modified phenolic resins and isocyanurates 339-90-7DP, Tris(2-hydroxyethyl) isocyanurate, reaction products with rosin-modified phenolic resins and glycerin 2904-41-8DP, Tris(2-carboxyethyl) isocyanurate, reaction products with rosin-modified phenolic resins and glycerin 24468-39-1DP, Tris(2,3-dihydroxypropyl) isocyanurate, reaction products with rosin-modified phenolic resins and glycerin 26678-93-3DP, Formaldehyde-p-octylphenol copolymer, reaction products with rosins, isocyanurates, and glycerin

RL: PREP (Preparation)

(preparation of, binders, for waterless lithog. inks, with good scumming resistance)

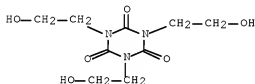
- IT 339-90-7DP, Tris(2-hydroxyethyl) isocyanurate, reaction products with rosin-modified phenolic resins and glycerin 2904-41-8DP, Tris(2-carboxyethyl) isocyanurate, reaction products with rosin-modified phenolic resins and glycerin 24468-39-1DP, Tris(2,3-dihydroxypropyl) isocyanurate, reaction products with rosin-modified phenolic resins and glycerin 26678-93-3DP, Formaldehyde-p-octylphenol copolymer, reaction products with rosins, isocyanurates, and glycerin

RL: PREP (Preparation)

(preparation of, binders, for waterless lithog. inks, with good scumming resistance)

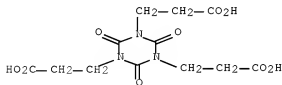
RN 339-90-7 HCAPLUS

CN 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(2-hydroxyethyl)- (CA INDEX NAME)



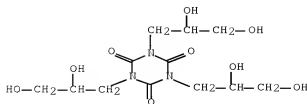
RN 2904-41-8 HCAPLUS

CN 1,3,5-Triazine-1,3,5(2H,4H,6H)-tripropanoic acid, 2,4,6-trioxo- (CA INDEX NAME)

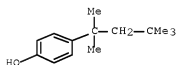


RN 24468-39-1 HCAPLUS

CN 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(2,3-dihydroxypropyl)- (CA INDEX NAME)



RN 26678-93-3 HCAPLUS  
 CN Formaldehyde, polymer with 4-(1,1,3,3-tetramethylbutyl)phenol (CA INDEX NAME)  
 CM 1  
 CRN 140-66-9  
 CMF C14 H22 O



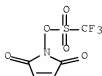
CM 2  
 CRN 50-00-0  
 CMF C H2 O

H<sub>2</sub>C=O

L75 ANSWER 13 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1993:136041 HCAPLUS [Full-text](#)  
 DN 118:136041  
 TI Airborne contamination of a chemically amplified resist. 1.  
 Identification of problem  
 AU MacDonald, Scott A.; Hinsberg, William D.; Wendt, H. Russell; Clecak, Nicholas J.; Willson, C. Grant; Snyder, Clinton D.  
 CS Almaden Res. Cent., IBM Res. Div., San Jose, CA, 95120-6099, USA  
 SO Chemistry of Materials (1993), 5(3), 348-56  
 CODEN: CMATEX; ISSN: 0897-4756  
 DT Journal  
 LA English  
 AB The lithog. performance of a chemical amplified resist is severely degraded by vapor from organic bases. This effect is very pronounced and can be observed when the coated wafers stand for only a few minutes in air containing ppb levels of an organic base. In resist systems derived from poly[4-((tert-butyloxycarbonyl)oxy)styrene], the contamination induced effect takes 2 general forms. When processed in the neg. tone, the UV exposure dose required to obtain the correct linewidth increases. When processed in the pos. tone, a skin forms at the resist-air interface. Both effects are caused by the

photogenerated acid being neutralized by the airborne organic base. A wide variety of commonly used materials liberate trace amts. of volatile amines and degrade resist performance. The authors have quantified the incorporation of one such airborne contaminant, N-methylpyrrolidone (NMP), by thin polymer films. NMP labeled with  $^{14}\text{C}$  was introduced at a concentration of 10 ppb into a stream of purified air and the films of interest were allowed to stand in the air stream for a predetd. time under controlled conditions. This method allows for determining NMP uptake rate, correlating lithog. performance with absorbed NMP content, and studying the effects of film thickness or composition on absorption rates.

- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST airborne contamination chem amplified resist lithog; carbon filter clean room air resist; volatile org base air contaminant resist
- IT Phenolic resins, uses  
RL: USES (Uses)  
(epoxy, novolak, resist composition containing, airborne contamination effect on performance of)
- IT Air pollution  
(indoor, in clean room of lithog. manufacturing, resist performance effected by)
- IT Phenolic resins, uses  
RL: USES (Uses)  
(novolak, cresol-based, resist composition containing, airborne contamination effect on performance of)
- IT 57840-38-7, Triphenylsulfonium hexafluoroantimonate 135057-84-0B, alkyl derivs.  
RL: USES (Uses)  
(acid generator, in resist composition, absorption of airborne contaminant by resist in)
- IT 121-69-7, N,N-Dimethylaniline, uses  
RL: USES (Uses)  
(air contaminant in clean room of lithog. manufacturing, resist performance effected by)
- IT 872-50-4, uses 98324-89-1  
RL: USES (Uses)  
(airborne contaminant in clean room of lithog. manufacturing, resist performance in presence of)
- IT 7440-44-0, Carbon, uses  
RL: USES (Uses)  
(filter from, for removal of volatile organic bases from clean room air, in lithog. processing of resists)
- IT 135057-84-0B, alkyl derivs.  
RL: USES (Uses)  
(acid generator, in resist composition, absorption of airborne contaminant by resist in)
- RN 135057-84-0 HCAPLUS
- CN Methanesulfonic acid, 1,1,1-trifluoro-, 2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl ester (CA INDEX NAME)





L75 ANSWER 14 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1992:184619 HCAPLUS Full-text

DN 116:184619

OREF 116:31073a,31076a

TI Light-sensitive compositions containing modified siloxanes for presensitized plates and photoresists

IN Mizutani, Kazuyoshi; Aoi, Toshiaki

PA Fuji Photo Film Co., Ltd., Japan

SO Eur. Pat. Appl., 58 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 410760	A2	19910130	EP 1990-308212	19900726 <--
	EP 410760	A3	19910821		
	EP 410760	B1	19940914		

R: DE, GB

JP 03059667	A	19910314	JP 1989-196108	19890728 <--
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JP 2648969	B2	19970903		
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US 5143816	A	19920901	US 1990-555599	19900723 <--
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PRAI JP 1989-196108	A	19890728	<--	
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AB Light-sensitive comps. for preparing presensitized plates and photoresists contain an orthoquinonediazide compound and a polysiloxane with >1 mol% of a structural unit derived from a product of a thermal cycloaddn. reaction. Thus, a composition for preparing a presensitized printing plate contained a polysiloxane obtained from acetoacetoxyethyl acrylate, 2-trimethyloxysilyl-1,3-butadiene, and N-phenylacrylamide, 2,3,4,4'-tetrahydroxybenzophenone 1,2-naphthoquinone-2-diazide-5-sulfonate, m-cresol-p-cresol-HCHO resin, Oil Blue 603, dichloroethane, and Me cellosolve. Plates prepared with this composition gave good pos. patterns.

IC ICM G03F007-075

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Printing plates

(presensitized, photosensitive comps. containing cycloaddn.

reaction-modified siloxanes for fabrication of)

IT 27029-76-1 107761-81-9, 2,3,4,4'-Tetrahydroxyphenone

1,2-naphthoquinone-2-diazide-5-sulfonate

RL: USES (Uses)

(photosensitive comps. containing cycloaddn. reaction-modified siloxanes and, for presensitized plates and photoresists)

IT 142-45-0D, Acetylenedicarboxylic acid, cycloaddn. reaction products with siloxanes 541-59-3D, Maleimide, cycloaddn. reaction products

with siloxanes 2210-24-4D, N-Phenylacrylamide, cycloaddn. reaction

products with siloxanes 7300-91-6D, N-(p-

Hydroxyphenyl)maleimide, cycloaddn. reaction products with siloxanes

7300-91-2D, cycloaddn. reaction products with siloxanes

21282-96-2D, cycloaddn. reaction products with siloxanes 131290-90-9D,

cycloaddn. reaction products with siloxanes

RL: USES (Uses)

(photosensitive comps. containing, for presensitized plates and photoresists)

IT 27029-76-1

RL: USES (Uses)

(photosensitive comps. containing cycloaddn. reaction-modified siloxanes and, for presensitized plates and photoresists)

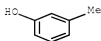
RN 27029-76-1 HCAPLUS

CN Formaldehyde, polymer with 3-methylphenol and 4-methylphenol (CA INDEX NAME)

CM 1

CRN 108-39-4

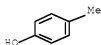
CMF C7 H8 O



CM 2

CRN 106-44-5

CMF C7 H8 O



CM 3

CRN 50-00-0

CMF C H2 O



IT 541-59-3D, Maleimide, cycloaddn. reaction products with siloxanes

7300-91-6D, N-(p-Hydroxyphenyl)maleimide, cycloaddn. reaction products with siloxanes 7300-97-2D, cycloaddn. reaction products with siloxanes

RL: USES (Uses)

(photosensitive compns. containing, for presensitized plates and photoresists)

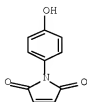
RN 541-59-3 HCAPLUS

CN 1H-Pyrrole-2,5-dione (CA INDEX NAME)



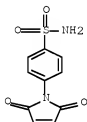
RN 7300-91-6 HCAPLUS

CN 1H-Pyrrole-2,5-dione, 1-(4-hydroxyphenyl)- (CA INDEX NAME)



RN 7300-97-2 HCAPLUS

CN Benzenesulfonamide, 4-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)- (CA INDEX NAME)



L75 ANSWER 15 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1985:445751 HCAPLUS [Full-text](#)

Correction of: 1985:53961

DN 103:45751

Correction of: 102:53961

OREF 103:7287a,7290a

TI Toner for use in electrophotography

IN Ohno, Junichi

PA Toray Industries, Inc., Japan

SO Eur. Pat. Appl., 51 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 127375	A2	19841205	EP 1984-303274	19840515 <--
	EP 127375	A3	19860326		
	R: DE, FR, GB, IT, NL, SE				
	JP 59212847	A	19841201	JP 1983-86327	19830517 <--
	JP 01053781	B	19891115		
	US 4575478	A	19860311	US 1984-611526	19840517 <--
PRAI	JP 1983-86327	A	19830517	<--	

AB An electrophotog. toner which has a high bonding strength to an ink-repellent surface such as a dry lithog. printing plate and can improve the durability of the plate consists of an epoxy resin or a modified epoxy resin, obtained by reaching the epoxy resin with a polyfunctional compound having  $\geq 2$  carboxy or amino groups/mol., and a bivalent or polyvalent metal complex compound or a bivalent or polyvalent metal salt. Thus, a 1,4-dioxane solution containing Epikote 1004 86, tris(acetylacetonato)cobalt(IV) 4, Bontron S-32 4, and C

KATHLEEN FULLER EIC1700 571/272-2506

black 6 parts was mixed, milled, and the solvent distilled off to give a solid which was pulverized and classified to obtain a neg. chargeable toner having an average particle size of .apprx.9.0µ. Some 10% by weight of this toner powder was mixed with a magnetic Fe powder carrier and the mixture used in an NP5100 copy machine to form a toner image. The bonding strength of this toner to a special silicone plate was 83 g/cm. After heat-treating at 160° for 1 min, the plate was used to produce over 1000 copies.

IC G03G009-08; C08G059-02; C08G059-14

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST epoxy resin metal compd electrophotog; toner electrophotog modified epoxy resin; dry lithog plate electrophotog toner

IT Carbon black, uses and miscellaneous

RL: USES (Uses)

(electrophotog. toner containing modified epoxy resin and metal complex or salt and, for dry lithog. plate fabrication)

IT Epoxy resins, uses and miscellaneous

RL: USES (Uses)

(modified, electrophotog. toner containing metal complex or salt and, for dry lithog. plate fabrication)

IT Amines, compounds

Carboxylic acids, compounds

RL: USES (Uses)

(reaction products with epoxy resins, electrophotog. toners containing metal complexes or salts and, for dry lithog. plate fabrication)

IT Photography, electro-, developers

(toners, containing epoxy resin and metal complex or salt for dry lithog. plate fabrication)

IT Lithographic plates

(dry-process, electrophotog. toners containing epoxy resin and metal complex or metal salt for fabrication of)

IT 1309-38-2, uses and miscellaneous

RL: USES (Uses)

(electrophotog. developer containing toner from modified epoxy resin and metal complex or salt and polymer-coated, for dry lithog. plate fabrication)

IT 7439-89-6, uses and miscellaneous

RL: USES (Uses)

(electrophotog. developer containing toner from modified epoxy resin and metal complex or salt and powdered, for dry lithog. plate fabrication)

IT 577-11-7

RL: USES (Uses)

(electrophotog. developer with a modified epoxy resin-metal compound toner and, for dry lithog. plate fabrication)

IT 9003-53-6 25068-38-6

RL: USES (Uses)

(electrophotog. developer with modified epoxy resin-metal compound toner and carrier from iron oxide powder with layer of, for dry lithog. plate fabrication)

IT 88-98-2 101-80-4D, reaction products with ethoxy resins 102-79-4D,

reaction products with epoxy resins and maleic anhydride 108-31-6D,

reaction products with amines or alcs. and epoxy resins 108-31-6D,

reaction products with epoxy resins 108-45-2D, reaction products with

ethoxy resins 110-17-8D, reaction products with epoxy resins 110-63-4,

uses and miscellaneous 110-85-0D, reaction products with epoxy resins

115-28-6 120-40-1D, reaction products with epoxy resins and maleic

anhydride 140-31-8 141-82-2, uses and miscellaneous 1338-50-7D,

reaction products with ethoxy resins 2451-62-9E, reaction

products with epoxy resins 25068-38-6 25068-38-6D, modified  
38811-11-9D, reaction products with amines or anhydrides and epoxy resins  
63939-13-9 97047-60-4 97052-23-8D, modified

RL: USES (Uses)

(electrophotog. toner containing metal complex or salt and, for dry  
lithog. plate fabrication)

IT 80-08-0 101-80-4 919-30-2 8005-02-5 14782-75-3 84135-36-4  
91432-86-9

RL: USES (Uses)

(electrophotog. toner containing modified epoxy resin and metal complex or  
salt and, for dry lithog. plate fabrication)

IT 71-48-7 543-80-6 7429-90-5D, compds. 7439-89-6D, compds.  
7439-92-1D, compds. 7439-95-4D, compds. 7439-96-5D, compds.  
7439-98-7D, compds. 7440-02-0D, compds. 7440-31-5D, compds.  
7440-32-6D, compds. 7440-39-3D, compds. 7440-47-3D, compds.  
7440-48-4D, compds. 7440-50-8D, compds. 7440-62-2D, compds.  
7440-66-6D, compds. 7440-67-7D, compds. 7440-67-7D, zirconium  
complexes 7440-70-2D, compds. 10450-55-2 13963-57-0 14024-18-1  
21679-46-9

RL: USES (Uses)

(electrophotog. toners containing modified epoxy resin and, for dry  
lithog. plate fabrication)

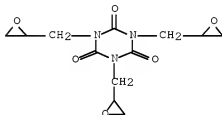
IT 2451-62-9D, reaction products with epoxy resins 63939-13-9

RL: USES (Uses)

(electrophotog. toner containing metal complex or salt and, for dry  
lithog. plate fabrication)

RN 2451-62-9 HCAPLUS

CN 1,3,5-Triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(2-oxiranylmethyl)- (CA  
INDEX NAME)



RN 63939-13-9 HCAPLUS

CN Epikote 154 (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L75 ANSWER 16 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1983:135232 HCAPLUS [Full-text](#)

DN 98:135232

OREF 98:20459a,20462a

TI Electrophotographic light-sensitive printing materials

IN Horie, Seiji; Nakano, Junji; Nagata, Masayoshi; Sato, Hideo

PA Fuji Photo Film Co., Ltd., Japan

SO Ger. Offen., 53 pp.

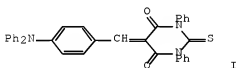
CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3208455	A1	19820923	DE 1982-3208455	19820309 <--
	DE 3208455	C2	19900125		
	JP 57147656	A	19820911	JP 1981-33579	19810309 <--
	JP 02046944	B	19901017		
	GB 2097139	A	19821027	GB 1982-6504	19820305 <--
	GB 2097139	B	19850509		
	US 4500622	A	19850219	US 1982-356541	19820309 <--
FRAI	JP 1981-33579	A	19810309	<--	
OS	MARPAT 98:135232				
GI					



- AB An electrophotog. light-sensitive printing material with a high sensitivity that can be used to produce printing plates capable of producing clear copies with low stain formation in the nonimage areas consists of a conductive support containing thereon an electrophotog. sensitive layer consisting of a hydrazone derivative, a barbituric acid derivative, a thiobarbituric acid derivative or another charge-forming material, and a resin binder. Thus, a grained Al plate was coated with a solution containing p-Ph2NC6H4CH:NNMePh 0.4, a benzyl methacrylate-methacrylic acid copolymer 1.0, I 0.1, and CH2Cl2 8 parts at 0.25 mm, dried, corona charged in the dark to produce a surface potential of +400 V, imagewise exposed and developed with a liquid developer to give a color pos. toner image. After heating 30 s at 100° to fix the toner, the plate was then used in a Hamadaster 600 CD offset press to produce 50,000 very clean copies with no background stains.
- IC G03G005-06
- CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- IT Printing plates  
(electrophotog. plates for fabrication of)
- IT Acrylic polymers, uses and miscellaneous  
Phenolic resins, uses and miscellaneous
- RL: USES (Uses)  
(electrophotog. plates with photoconductive layer containing charge-forming agent and hydrazone derivative and, for printing plate fabrication)
- IT 67-52-7D, derivs. 147-14-8 584-17-6D, derivs.  
574-93-6 41709-76-6 84822-55-9 84822-56-0 84822-57-1 84822-58-2  
84822-59-3 84822-61-7
- RL: USES (Uses)  
(electrophotog. plates with photoconductive layer containing hydrazone derivative and resin binder and, for printing plate fabrication)
- IT 67-52-7D, derivs. 504-17-6D, derivs.  
RL: USES (Uses)  
(electrophotog. plates with photoconductive layer containing hydrazone derivative and resin binder and, for printing plate fabrication)
- RN 67-52-7 HCAPLUS
- CN 2,4,6(1H,3H,5H)-Pyrimidinetrione (CA INDEX NAME)



RN 504-17-6 HCAPLUS

CN 4,6(1H,5H)-Pyrimidinedione, dihydro-2-thioxo- (CA INDEX NAME)



L75 ANSWER 17 OF 17 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1975:586371 HCAPLUS Full-text

DN 83:186371

OREF 83:29211a,29214a

TI Photosensitive resin compositions for lithographic plates

IN Shinozaki, Fumiaki; Ikeda, Tomoaki

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 50036203	A	19750405	JP 1973-85332	19730727 <--
	JP 56019619	B	19810508		
	GB 1442934	A	19760714	GB 1974-33237	19740726 <--
PRAI	JP 1973-85332	A	19730727	<--	

GI For diagram(s), see printed CA Issue.

AB A pos.-type photosensitive composition contains a quinone diazide-type photosensitive material and  $\geq 1$  compound selected from o-benzoic sulfimide, a hydantoin or thiohydantoin derivative I [ $Z_1, Z_2 = O, S; R, R_1 = H, alkyl, aralkyl, aryl, cycloalkyl$ ] or a thiazoline-2-thione derivative II [ $R = H, alkyl, aralkyl, aryl; R_1 = H, alkyl, cycloalkyl$ ]. These compns. are useful in fabricating lithog. printing plates and electronic circuits. Thus, an Al plate pretreated in the conventional manner by sandblasting with alundum and immersing in 20%  $H_3PO_4$ , 70%  $HNO_3$ , and 2% Na silicate was coated with a solution of the 2-diazo-1-naphthoquinone-4-sulfonic acid polyhydroxyphenyl ester 1 part and an oil-soluble phenolic resin (PR-50904, Sankyo Chemical) 2 parts in MeCOEt 10 and MeOCH<sub>2</sub>CH<sub>2</sub>OH 10 parts. The plate was exposed using a high-pressure Hg lamp and developed with 5%  $H_3PO_4$ . The printing plate obtained gave superior printed copies. The sensitivity of the plate was improved 1.5 fold by the further addition of 5,5-diphenylthiohydantoin 0.18 part to the above formulation.

INCL 116A415; 103B1; 16D419; 16E351

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST photopolymer quinone diazide lithog; phenolic resin quinone diazide lithog; benzoic sulfimide photopolymer lithog;

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hydantoin phenolic photopolymer lithog; thiazolinethione  
phenolic photopolymer lithog

IT Phenolic resins  
RL: USES (Uses)  
(photosensitive compns. containing quinone diazide compound, hydantoin or thiazolinethione derivative and, for lithog. plates and elec. circuits)

IT Lithographic plates  
(photosensitive compns. for, containing quinone diazide compound and hydantoin or thiazolinethione derivative)

IT 2-Naphthalenediazonium, 1-hydroxy-4-sulfo-, polyhydroxyphenyl ester  
RL: USES (Uses)  
(photosensitive compns. containing phenolic resin, hydantoin or thiazolinethione derivative and, for lithog. plates and elec. circuits)

IT 56898-46-5  
RL: USES (Uses)  
(photosensitive compns. containing phenolic resin, quinone diazide compound and, for lithog. plates and elec. circuits)

IT 81-07-2 461-72-3D, 2,4-Imidazolidinedione, derivs. 5685-05-2D, 2(3H)-Thiazolethione, derivs.  
RL: USES (Uses)  
(photosensitive compns. containing quinone diazide compound and, for lithog. plates and photoresists)

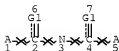
IT 461-72-3D, 2,4-Imidazolidinedione, derivs.  
RL: USES (Uses)  
(photosensitive compns. containing quinone diazide compound and, for lithog. plates and photoresists)

RN 461-72-3 HCAPLUS

CN 2,4-Imidazolidinedione (CA INDEX NAME)



=> => d que 155  
L1 STR



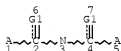
VAR G1=O/S  
NODE ATTRIBUTES:  
NSPEC IS RC AT 1  
NSPEC IS RC AT 2  
NSPEC IS RC AT 3  
NSPEC IS RC AT 4  
NSPEC IS RC AT 5  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED



GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE

```
L7          SCR 501 OR 503
L11         SCR 2043
L14         17399 SEA FILE=REGISTRY ABB=ON  "PHENOLIC RESIN"/PCT
L27         61891 SEA FILE=REGISTRY SSS FUL L1 AND L7 AND L11
L30         102013 SEA FILE=HCAPLUS ABB=ON  "PHENOLIC RESINS"+NT,PFT/CT
L35         STR
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VAR G1=0/S

NODE ATTRIBUTES:

NSPEC	IS C	AT	1
NSPEC	IS C	AT	2
NSPEC	IS C	AT	3
NSPEC	IS C	AT	4
NSPEC	IS C	AT	5

DEFAULT MLEVEL IS ATOM

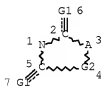
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE

L42 STR



VAR G1=0/S

REP G2=(1-2) A

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 7

STEREO ATTRIBUTES: NONE

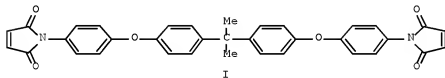
L44 35073 SEA FILE=REGISTRY SUB=L27 SSS FUL (L42 OR L35)  
L45 639 SEA FILE=REGISTRY ABB=ON L14 AND L44  
L46 358 SEA FILE=HCAPLUS ABB=ON L45  
L47 161 SEA FILE=HCAPLUS ABB=ON L30 AND L46  
L50 141 SEA FILE=HCAPLUS ABB=ON L47 AND (1840-2003)/PRY,AY,EY

L51 594 SEA FILE=REGISTRY ABB=ON L45 NOT SI/ELS  
L52 579 SEA FILE=REGISTRY ABB=ON L51 NOT PUR/PCT  
L53 226 SEA FILE=REGISTRY ABB=ON L52 NOT EP/PCT  
L54 163 SEA FILE=HCAPLUS ABB=ON L53  
L55 84 SEA FILE=HCAPLUS ABB=ON L50 AND L54

=> d 155 bib abs hitind fhitstr

L55 ANSWER 1 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 2005:253696 HCAPLUS Full-text  
DN 142:299116  
TI Adhesive sheets for face-down flip-chip packages of semiconductor bare chips  
IN Kobayashi, Tatsuji; Suzuki, Naoshi  
PA Tomoegawa Paper Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 15 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005075866	A	20050324	JP 2003-305587	20030829 <--
PRAI	JP 2003-305587		20030829	<--	
GI					



AB The adhesive sheets, keeping good adhesion upon high-temperature cycle test, have (release sheets forming adhesive layers containing) (A) bismaleimide resins and (B) allyl-substituted hydroxy-containing polybenzyls (Makush given) with d.p. 2-5. The adhesive layers may contain organic peroxides and nonconductive particles. Thus, 75 parts bismaleimide resin I and 25 parts p-allylphenol-formaldehyde copolymer were dissolved in THF, freed of solvents to solids 40%, and pasted on a release-finished polyester film at dry thickness 25  $\mu$ m to form an adhesive sheet showing no release from adherend (bare chip) on thermal shock test and reflow test.

IC ICM C09J007-00  
ICS C08J007-04; C09J011-00; C09J135-00; C09J161-06; H01L021-60; H01L023-29; H01L023-31; C08L101-00

CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 76

IT Phenolic resins, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyimide-, bismaleimide-based; bismaleimide resin- and allylphenol resin-containing adhesive sheets for face-down flip-chip packages)

IT 847897-21-6P 847897-22-7P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(bismaleimide resin- and allylphenol resin-containing adhesive sheets for face-down flip-chip packages)

IT 847897-21-6P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(bismaleimide resin- and allylphenol resin-containing adhesive sheets for face-down flip-chip packages)

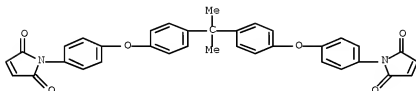
RN 847897-21-6 HCAPLUS

CN Formaldehyde, polymer with 1,1'-[(1-methylethylidene)bis(4,1-phenyleneoxy-4,1-phenylene)]bis[1H-pyrrole-2,5-dione] and 2-(2-propenyl)phenol (9CI)  
(CA INDEX NAME)

CM 1

CRN 79922-55-7

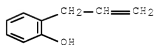
CMF C35 H26 N2 O6



CM 2

CRN 1745-81-9

CMF C9 H10 O



CM 3

CRN 50-00-0

CMF C H2 O

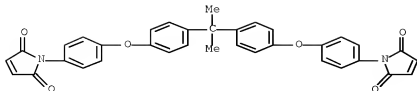
H<sub>2</sub>C=O

=> d 155 bib abs hitind fhitr 2-  
YOU HAVE REQUESTED DATA FROM 83 ANSWERS - CONTINUE? Y/(N):y

L55 ANSWER 2 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

KATHLEEN FULLER EIC1700 571/272-2506

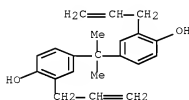
AN 2003:420541 HCAPLUS Full-text  
DN 139:324264  
TI High-temperature adhesives based on Alder-ene reaction of diallyl bisphenol A novolak and bismaleimide: Effect of BMI structure and novolak molar mass  
AU Gouri, C.; Nair, C. P. Reghunadhan; Ramaswamy, R.  
CS Polymers and Special Chemicals Division, Vikram Sarabhai Space Centre, Thiruvananthapuram, 695022, India  
SO Polymers & Polymer Composites (2003), 11(4), 311-320  
CODEN: PPOCEC; ISSN: 0967-3911  
PB Rapra Technology Ltd.  
DT Journal  
LA English  
AB Diallyl bisphenol A-formaldehyde novolak (ABPF) resin was cured with 4 structurally different bismaleimides (BMIs) at high temps. through an Alder-ene reaction which resulted in thermally stable network polymers. The adhesive characteristics of the different BMI-ABPF systems were evaluated in terms of the lap shear strength (LSS) on aluminum substrates at varying temps. up to 250°. The LSS properties were not significantly affected by the structure of the BMI. Although the LSS of BMI-ABPF systems per se were not particularly high due to the brittle nature of the crosslinked structures, all the systems exhibited remarkably good retention of LSS at high temps. Replacing ABPF with its monomeric analog i.e. o,o'-diallyl bisphenol A (DABA) resulted in better adhesion, but in a poorer thermo-adhesive profile. Comparison of DMA and thermo-adhesive profiles implied that in the majority of the cases mol. relaxations at higher temperature are conducive to matrix toughening which results in enhanced adhesion properties.  
CC 38-3 (Plastics Fabrication and Uses)  
IT Section cross-reference(s): 56  
IT Phenolic resins, properties  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(novolak; adhesive characteristics towards aluminum of diallylbisphenol A novolak cured with bismaleimides)  
IT 341989-99-9P, 2,2-Bis[4-(4-maleimidophenoxy)phenyl]propane-2,2'-diallylbisphenol A-formaldehyde copolymer 412295-50-2P, Bis(4-maleimidophenyl)methane-2,2'-diallylbisphenol A-formaldehyde copolymer 412295-61-5P, Bis(4-maleimidophenyl)sulfone-2,2'-diallylbisphenol A-formaldehyde copolymer 412299-26-4P, Bis(4-maleimidophenyl)ether-2,2'-diallylbisphenol A-formaldehyde copolymer  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(adhesive characteristics towards aluminum of diallylbisphenol A novolak cured with bismaleimides)  
IT 341989-99-9P, 2,2-Bis[4-(4-maleimidophenoxy)phenyl]propane-2,2'-diallylbisphenol A-formaldehyde copolymer  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(adhesive characteristics towards aluminum of diallylbisphenol A novolak cured with bismaleimides)  
RN 341989-99-9 HCAPLUS  
CN Formaldehyde, polymer with 1,1'-[(1-methylethylidene)bis(4,1-phenyleneoxy-4,1-phenylene)]bis[1H-pyrrole-2,5-dione] and 4,4'-(1-methylethylidene)bis[2-(2-propenyl)phenol] (9CI) (CA INDEX NAME)  
CM 1  
CRN 79922-55-7  
CMF C35 H26 N2 O6



CM 2

CRN 1745-89-7

CMF C21 H24 O2



CM 3

CRN 50-00-0

CMF C H2 O

H2C=O

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 3 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2003:404487 HCAPLUS [Full-text](#)

DN 139:351244

TI Synthesis, characterization and ion-exchange properties of 4-hydroxyacetophenone, biuret and formaldehyde terpolymer resins

AU Gurnule, W. B.; Rahangdale, P. K.; Paliwal, L. J.; Kharat, R. B.

CS Department of Chemistry, Kamla Nehru College, Nagpur, 440 009, India

SO Reactive & Functional Polymers (2003), 55(3), 255-265

CODEN: RFPOF6; ISSN: 1381-5148

PB Elsevier Science B.V.

DT Journal

LA English

AB Terpolymer resins were synthesized by the condensation of 4-hydroxyacetophenone and biuret with formaldehyde in the presence of acid catalyst and using varied molar ratios of reacting monomers. The resin compns. have been determined on the basis of their elemental anal. and the number-average mol. wts. of these resins were determined by conductometric titration in nonaq. medium. Viscometric measurements in DMF have been carried out with a view to ascertaining the characteristic functions and constant UV-

visible, IR, and NMR spectra were studied to elucidate the structure. Chelation ion-exchange properties of this resin have also been studied employing a batch equilibrium method. It was employed to study selectivity of metal ion uptake over a wide pH range and in media of various ionic strengths. The overall rate of metal uptake follows the order:  $\text{Fe}^{3+} > \text{Cu}^{2+} > \text{Ni}^{2+} > \text{Co}^{2+} = \text{Zn}^{2+} > \text{Cd}^{2+} > \text{Pb}^{2+} > \text{Hg}^{2+}$ .

CC 37-4 (Plastics Manufacture and Processing)

Section cross-reference(s): 25, 38

IT Phenolic resins, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (aminoplast-; preparation, characterization and cation-exchange properties of)

IT 503058-80-8P, Biuret-formaldehyde-4-hydroxyacetophenone copolymer

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation, characterization and cation-exchange properties of)

IT 503058-80-8P, Biuret-formaldehyde-4-hydroxyacetophenone copolymer

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation, characterization and cation-exchange properties of)

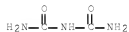
RN 503058-80-8 HCAPLUS

CN Imidodicarbonic diamide, polymer with formaldehyde and 1-(4-hydroxyphenyl)ethanone (9CI) (CA INDEX NAME)

CM 1

CRN 108-19-0

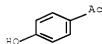
CMF C2 H5 N3 O2



CM 2

CRN 99-93-4

CMF C8 H8 O2



CM 3

CRN 50-00-0

CMF C H2 O



RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

KATHLEEN FULLER EIC1700 571/272-2506

L55 ANSWER 4 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2003:369059 HCAPLUS Full-text

DN 138:370415

TI Coating compositions for primers for manufacture of scratch-resistant and processable coated metal plates

IN Oshima, Takao; Tada, Masahiro; Akimoto, Masami; Murata, Masahiro

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003138225	A	20030514	JP 2001-336439	20011101 <--
	JP 4061050	B2	20080312		
PRAI	JP 2001-336439		20011101	<--	

AB Title comps. contain OH-containing resins 100, aminoplast- and/or blocked polyisocyanate-type crosslinkers 10-40, and resol phenolic resin-type crosslinkers 1-10 parts. A primer composition containing Vylon 96CS, Desmodur BL 3175, bisphenol A-HCHO copolymer, Nacure 5225, and an organic Sn catalyst was spread on a chromated Zn-plated steel plate, baked at 220°, topcoated with KP color 1558 blue, and baked at 220° to form a plate showing scratch resistance and processability.

IC ICM C09D201-06

ICS B05D007-14; B05D007-24; B32B015-08; C09D005-00; C09D161-06;

C09D161-20; C09D175-04

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 55, 56

IT Phenolic resins, uses

RL: IMF (Industrial manufacture); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)

(aminoplast-polyester-; phenolic resin and aminoplast and/or

polyisocyanate crosslinker-containing OH resin primers for preparation of

scratch-resistant coated metals)

IT Phenolic resins, uses

RL: IMF (Industrial manufacture); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)

(epoxy, resolic; phenolic resin and aminoplast and/or polyisocyanate

crosslinker-containing OH resin primers for preparation of scratch-

resistant

coated metals)

IT Phenolic resins, uses

RL: IMF (Industrial manufacture); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)

(polyester-, resolic; phenolic resin and aminoplast and/or

polyisocyanate crosslinker-containing OH resin primers for preparation of

scratch-resistant coated metals)

IT 524072-92-2P 524072-93-3P, Bisphenol A-formaldehyde-melamine-

Vylon 96CS copolymer 524072-94-4P, Bisphenol A-formaldehyde-melamine-

Beckolite M 6159 60 copolymer 524072-95-5P 524072-96-6P

524072-97-7P 524072-98-8P 524072-99-9P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)

(phenolic resin and aminoplast and/or polyisocyanate crosslinker-containing

OH resin primers for preparation of scratch-resistant coated metals)

IT 524072-92-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)

KATHLEEN FULLER EIC1700 571/272-2506

(phenolic resin and aminoplast and/or polyisocyanate crosslinker-containing  
OH resin primers for preparation of scratch-resistant coated metals)

RN 524072-92-2 HCAPLUS

CN Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol],  
1,3,5-tris[6-[[[(1-methylpropylidene)amino]oxy]carbonyl]amino]hexyl]-  
1,3,5-triazine-2,4,6(1H,3H,5H)-trione and Vylon 96CS (9CI) (CA INDEX  
NAME)

CM 1

CRN 346403-77-8

CMF Unspecified

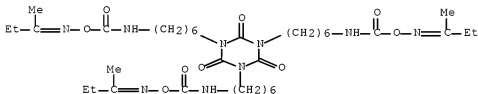
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 93919-05-2

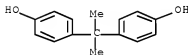
CMF C36 H63 N9 O9



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4

CRN 50-00-0

CMF C H2 O

H<sub>2</sub>C=O



DN 139:22571  
TI Synthesis of phenol formaldehyde-containing pendant itaconamic, itaconimide and poly[N-(substituted) itaconimides]  
AU Pyriadi, Thanun M.; Berzinji, Azad S.  
CS Department of Chemistry, College of Science, Baghdad University, Iraq  
SO Designed Monomers and Polymers (2003), 6(1), 115-122  
CODEN: DMPDF3; ISSN: 1385-772X  
PB VSP BV  
DT Journal  
LA English  
AB Ortho- and meta-aminophenols were allowed to react with itaconic anhydride, forming N-ortho- and N-meta-hydroxyphenyl itaconamic acids in good yields. The above substituted itaconamic acids were allowed to react with formaldehyde in conditions similar to those of Novolac preparation and novel phenol formaldehyde resins were obtained having pendant itaconamic acids. Similarly, formaldehyde was allowed to react with N-ortho- and N-meta-hydroxyphenyl itaconimides, producing novel resins. Furthermore, the itacon vinyls of the pendant groups of itaconamic acids as well as their corresponding imides were polymerized free radically using AIBN as an initiator and tough cross-linked resins were obtained.  
CC 35-5 (Chemistry of Synthetic High Polymers)  
IT Phenolic resins, preparation  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (preparation of phenol formaldehyde resin containing pendant itaconamic, itaconimide and poly[N-(substituted) itaconimides])  
IT 537657-11-7P 537657-12-8P 537657-14-0P 537657-15-1P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (condensation polymerization and optional radical crosslinking; preparation  
of phenol formaldehyde resin containing pendant itaconamic, itaconimide and poly[N-(substituted) itaconimides])  
IT 537657-14-0P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (condensation polymerization and optional radical crosslinking; preparation  
of phenol formaldehyde resin containing pendant itaconamic, itaconimide and poly[N-(substituted) itaconimides])  
RN 537657-14-0 HCAPLUS  
CN Formaldehyde, polymer with 1-(2-hydroxyphenyl)-3-methylene-2,5-pyrrolidinedione (9CI) (CA INDEX NAME)  
CM 1  
CRN 475145-67-6  
CMI C11 H9 N O3



CM 2

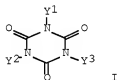
CRN 50-00-0  
CMF C H2 O

H<sub>2</sub>C=O

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 6 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 2002:466084 HCAPLUS Full-text  
DN 137:47922  
TI Epoxy resins, their manufacture, epoxy resin compositions, and cured articles  
IN Kajl, Masashi; Ogami, Koichiro  
PA Nippon Steel Chemical Co., Ltd., Japan  
SO PCT Int. Appl., 28 pp.  
CODEN: PIXXD2  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002048235	A1	20020620	WO 2001-JP10798	20011210 <--
	W: CN, JP, KR, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	JP 2003176331	A	20030624	JP 2002-212673	20020722 <--
	JP 3978094	B2	20070919		
	US 20040024167	A1	20040205	US 2003-433365	20030604 <--
	US 6903180	B2	20050607		
PRAI	JP 2000-376351	A	20001211	<--	
	WO 2001-JP10798	A	20011210	<--	
GI					



AB The invention relates to novel epoxy resins, and epoxy resin compns. or cured articles produced by using the resins. The cured articles are excellent in flame retardance, adhesion, water vapor resistance, and heat resistance, and suitably usable in lamination, molding, casting, adhesion, or the like. The epoxy resins are represented by the general formula I (Y1 = glycidyloxyarylmethyl group; Y2, Y3 = glycidyl, glycidyloxyarylmethyl group).

IC ICM C08G059-06  
ICS C08G059-32; C08G059-62; C07D405-14

CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38

IT Phenolic resins, uses  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(epoxy; isocyanurate ring-containing epoxy resin compns. and cured articles)

IT Phenolic resins, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(isocyanurate ring-containing epoxy resin compns. and cured articles)

IT 9003-35-4, PSM 4261  
RL: MOA (Modifier or additive use); USES (Uses)  
(isocyanurate ring-containing epoxy resin compns. and cured articles)

IT 89118-70-7, YX 4000HK 436147-34-1 437615-41-3, SN 475  
(polymer) 437615-44-6 437615-45-7  
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)  
(isocyanurate ring-containing epoxy resin compns. and cured articles)

IT 436147-31-8P 436147-32-9P  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(preparation of isocyanurate ring-containing epoxy resins)

IT 9003-35-4, PSM 4261  
RL: MOA (Modifier or additive use); USES (Uses)  
(isocyanurate ring-containing epoxy resin compns. and cured articles)

RN 9003-35-4 HCAPLUS

CN Phenol, polymer with formaldehyde (CA INDEX NAME)

CM 1

CRN 108-95-2

CMF C6 H6 O



CM 2

CRN 50-00-0

CMF C H2 O

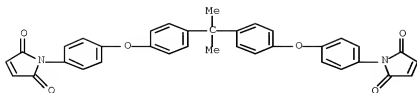
H2C=O

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 7 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 2002:1358 HCAPLUS Full-text  
DN 136:325961  
TI Thermal decomposition characteristics of Alder-ene adduct of diallyl bisphenol A novolac with bismaleimide: effect of stoichiometry, novolac molar mass and bismaleimide structure  
AU Gouri, C.; Reghunadhan Nair, C. P.; Ramaswamy, R.; Ninan, K. N.  
CS Propellants and Special Chemicals Group, Vikram Sarabhai Space Centre,

KATHLEEN FULLER EIC1700 571/272-2506

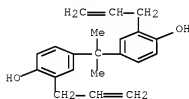
Thiruvananthapuram, 695022, India  
SO European Polymer Journal (2002), 38(3), 503-510  
CODEN: EUPJAG; ISSN: 0014-3057  
PB Elsevier Science Ltd.  
DT Journal  
LA English  
AB The addition-cured blends of 2,2'-diallyl bisphenol A formaldehyde resin (ABPF) with various bismaleimides (BMIs) were evaluated for thermal stability and degradation behavior by thermogravimetric anal. (TGA). TGA of the blend of ABPF and 2,2-bis 4-[(4-maleimido phenoxy) phenyl] propane (BMIP) with varying maleimide to allylphenol stoichiometry indicated that the thermal stability of the system was only marginally improved by the increase in BMI stoichiometry in the blend. The effect of BMI structure on thermal stability was studied using four different BMIs, viz. bis (4-maleimido phenyl) methane (BMIM), bis (4-maleimido phenyl) ether (BMIE), bis (4-maleimido phenyl) sulfone (BMIS) and BMIP. TGA showed a two-stage decomposition pattern for BMIS system and a single stage for all the other three. The thermograms of BMIM and BMIE were identical and superior to that of BMIS; the latter showing a relatively poor performance at lower temps. Compared to the BMI-adduct of monomeric diallyl bisphenol A (DABA), the polymeric analog viz. ABPF system exhibited better thermal stability. Non-isothermal kinetic anal. of the different systems showed the decomposition occurring in at least two kinetic steps. The computed activation energy exhibited a direct correlation to the relative thermal stability of the systems.  
CC 35-8 (Chemistry of Synthetic High Polymers)  
IT Phenolic resins, preparation  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)  
(thermal decomposition characteristics of Alder-ene adduct of diallyl bisphenol A novolac with bismaleimide: effect of stoichiometry, novolac molar mass and bismaleimide structure)  
IT 341989-99-9P, 2,2-Bis 4-[(4-maleimido phenoxy) phenyl] propane-2,2'-Diallylbisphenol A-formaldehyde copolymer  
412295-50-2P, Bis(4-maleimidophenyl)methane-2,2'-Diallylbisphenol A-formaldehyde copolymer 412295-61-5P, Bis(4-maleimido phenyl) sulfone-2,2'-Diallylbisphenol A-formaldehyde copolymer  
412299-26-4P, Bis(4-maleimido phenyl) ether-2,2'-Diallylbisphenol A-formaldehyde copolymer  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)  
(thermal decomposition characteristics of Alder-ene adduct of diallyl bisphenol A novolac with bismaleimide: effect of stoichiometry, novolac molar mass and bismaleimide structure)  
IT 341989-99-9P, 2,2-Bis 4-[(4-maleimido phenoxy) phenyl] propane-2,2'-Diallylbisphenol A-formaldehyde copolymer  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)  
(thermal decomposition characteristics of Alder-ene adduct of diallyl bisphenol A novolac with bismaleimide: effect of stoichiometry, novolac molar mass and bismaleimide structure)  
RN 341989-99-9 HCAPLUS  
CN Formaldehyde, polymer with 1,1'-[(1-methylethylidene)bis(4,1-phenyleneoxy-4,1-phenylene)]bis[1H-pyrrole-2,5-dione] and 4,4'-(1-methylethylidene)bis[2-(2-propenyl)phenol] (9CI) (CA INDEX NAME)  
CM 1  
CRN 79922-55-7  
CMF C35 H26 N2 O6



CM 2

CRN 1745-89-7

CMF C21 H24 O2



CM 3

CRN 50-00-0

CMF C H2 O



RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 8 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2001:666602 HCAPLUS [Full-text](#)

DN 135:212105

TI Bismaleimide-modified phenolic resins with improved heat resistance, brake pads and shoes therefrom

IN Fujita, Satoshi; Kobayashi, Masaaki; Paidi, Iera Reddie; Inoue, Tomio

PA Aishin Seiki Co., Ltd., Japan; Aisin Kako Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

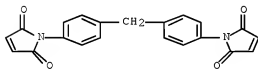
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001247640	A	20010911	JP 2000-60662	20000306 <---
FRAI	JP 2000-60662		20000306	<---	

KATHLEEN FULLER EIC1700 571/272-2506

- AB The phenolic resins useful for friction materials are prepared by reacting phenols, aldehydes, and 3-20% (based on the phenols) bismaleimide derivs. in the presence of catalysts. Incorporation of bismaleimide derivs. enables the resins to trap free radical during decomposition, enhancing heat resistance to 300-600°. Preparing 4,4'-Bismaleimide diphenylmethane, heating (115 g) with 1150 g phenol and 171 g 86% paraformaldehyde, heating with 397 g 37% HCHO to 105°, adding oxalic acid portionally, and heating 2 h, and removing unreacted phenol in vacuo gave 1264 g crosslinked modified resin showing improved heat resistance.
- IC ICM C08G008-30  
ICS C08J005-14; F16D069-02; C08L061-00
- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 37
- IT Phenolic resins, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(bismaleimide-modified phenolic resins with improved heat resistance, brake pads and shoes therefrom)
- IT 57013-64-6P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(bismaleimide-modified phenolic resins with improved heat resistance, brake pads and shoes therefrom)
- IT 57013-64-6P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(bismaleimide-modified phenolic resins with improved heat resistance, brake pads and shoes therefrom)
- RN 57013-64-6 HCAPLUS
- CN Formaldehyde, polymer with 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione] and phenol (9CI) (CA INDEX NAME)
- CM 1
- CRN 13676-54-5
- CMF C21 H14 N2 O4



- CM 2
- CRN 108-95-2
- CMF C6 H6 O



CM 3

CRN 50-00-0

CMF C H2 O

 $H_2C=O$ 

L55 ANSWER 9 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2001:602572 HCAPLUS Full-text

DN 135:181909

TI Rubber compositions with high elasticity and pneumatic tires

IN Sugimoto, Kenichi; Hojo, Masahiro

PA Bridgestone Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

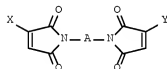
CODEN: JKXXAF

DT Patent

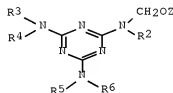
LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001226528	A	20010821	JP 2000-38011	20000216 <--
PRAI	JP 2000-38011		20000216	<--	
GI					



I



III

AB The comps. contain  $\geq 1$  rubber chosen from natural rubber and synthetic diene rubbers, I [A = (CH<sub>2</sub>)<sub>p</sub>R<sub>1</sub>(CH<sub>2</sub>)<sub>q</sub>, R<sub>1</sub>; R<sub>1</sub> = C<sub>2</sub>-16 alicyclic aliphatic group, C<sub>5</sub>-20 cyclic aliphatic group, C<sub>6</sub>-18 aromatic group, C<sub>7</sub>-24 alkylarom. group; R<sub>1</sub> may contain  $\geq 1$  atom chosen from O, N, and S; X, Y = H, Me; p, q = 1-3], novolak phenolic resins, hexamethylenetetramine (II) and/or III (Z = H, C<sub>1</sub>-8 alkyl; R<sub>2</sub>-R<sub>6</sub> = H, C<sub>1</sub>-8 alkyl, CH<sub>2</sub>OZ; R<sub>2</sub>-R<sub>6</sub> may form rings) as methylene group donors. Thus, a composition containing a natural rubber, PR 50235 (novolak), N,N'-(4,4'-diphenylmethane) bismaleimide, and I was applied on a steel cord and vulcanized to give a test piece showing good adhesion between the vulcanizate and the cord.

IC ICM C08L021-00

ICS B60C001-00; C08K005-17; C08K005-3415; C08K005-3492

CC 39-13 (Synthetic Elastomers and Natural Rubber)

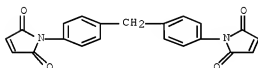
IT Phenolic resins, uses

RL: MOA (Modifier or additive use); USES (Uses)

(novolak, polymers with hexamethylenetetramine and bismaleimides;  
rubber comps. with high elasticity for pneumatic tires)

KATHLEEN FULLER EIC1700 571/272-2506

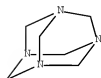
IT 354800-90-1P 354800-91-2P 354800-92-3P 354800-93-4P  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP  
(Preparation); USES (Uses)  
(rubber compns. with high elasticity for pneumatic tires)  
IT 354800-90-1P  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP  
(Preparation); USES (Uses)  
(rubber compns. with high elasticity for pneumatic tires)  
RN 354800-90-1 HCAPLUS  
CN Formaldehyde, polymer with 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-  
2,5-dione], phenol and 1,3,5,7-tetraazatricyclo[3.3.1.1.3,7]decane (9CI)  
(CA INDEX NAME)  
  
CM 1  
  
CRN 13676-54-5  
CMF C21 H14 N2 O4



CM 2  
  
CRN 108-95-2  
CMF C6 H6 O



CM 3  
  
CRN 100-97-0  
CMF C6 H12 N4



CM 4  
  
CRN 50-00-0



CMF C H2 O

H2C=O

L55 ANSWER 10 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2001:491394 HCAPLUS Full-text

DN 135:257566

TI Thermal characteristics of addition-cure phenolic resins

AU Reghunadhan Nair, C. P.; Bindu, R. L.; Ninan, K. N.

CS Propellant and Special Chemicals Group, Vikram Sarabhai Space Centre, Trivandrum, 695 022, India

SO Polymer Degradation and Stability (2001), 73(2), 251-257

CODEN: PDSTDW; ISSN: 0141-3910

PB Elsevier Science Ltd.

DT Journal

LA English

AB The thermal and pyrolysis characteristics of 4 different types of addition-cure phenolic resins were compared as a function of their structure. Whereas the propargyl ether resins and Ph azo-functional phenolics underwent easy curing, the Ph ethynyl- and maleimide-functional ones required higher thermal activation to achieve cure. All addition-cure phenolics exhibited improved thermal stability and char-yielding property in comparison to conventional phenolic resol resin. The maleimide-functional resins exhibited lowest thermal stability and those crosslinked via ethynyl Ph azo groups were the most thermally stable systems. Propargylated novolac and Ph ethynyl functional phenolics showed intermediate thermal stability. The maximum char yield was also given by ethynyl Ph azo system. Non-isothermal kinetic anal. of the degradation reaction implied that all the polymers undergo degradation in at least 2 steps, except in the case of ethynyl Ph azo resin, which showed an apparent single step degradation. The very low pre-exponential factor common to all polymers implied the significance of volatilization process in the kinetics of degradation. Isothermal pyrolysis studies led to the conclusion that in the case of N-containing polymer, the pyrolysis occurs via loss of nitrogenous products, which is conducive for enhancing the C-content of the resultant char. FTIR spectra of the pyrolyzed samples confirmed the presence of C-O groups in the char. XRD anal. of the partially carbonized polymers did not give any indication of crystallites except in the case of ethynyl Ph azo system.

CC 35-8 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 37

IT Phenolic resins, processes

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(reaction product with propargyl bromide or ethynylphenyldiazonium salt; thermal characteristics of addition-cure phenolic resins)

IT Phenolic resins, processes

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(resol; thermal characteristics of addition-cure phenolic resins)

IT 106-96-7D, Propargyl bromide, reaction product with formaldehyde-phenol copolymer 9803-35-4D, Formaldehyde-phenol copolymer, reaction product with propargyl bromide or ethynylphenyldiazonium salt

54060-30-9D, 1-Amino-3-ethynylbenzene, diazonium salt, reaction product with formaldehyde-phenol copolymer 206660-55-2,

Formaldehyde-N-(4-hydroxyphenyl)maleimide-phenol copolymer 361377-04-0

RL: PEP (Physical, engineering or chemical process); PRP (Properties);

PROC (Process)  
(thermal characteristics of addition-cure phenolic resins)  
IT 9903-35-4D, Formaldehyde-phenol copolymer, reaction product with  
propargyl bromide or ethynylphenyldiazonium salt  
RL: PEP (Physical, engineering or chemical process); PRP (Properties);  
PROC (Process)  
(thermal characteristics of addition-cure phenolic resins)  
RN 9003-35-4 HCAPLUS  
CN Phenol, polymer with formaldehyde (CA INDEX NAME)  
  
CM 1  
  
CRN 108-95-2  
CMF C6 H6 O



CM 2  
  
CRN 50-00-0  
CMF C H2 O



RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 11 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 2001:240446 HCAPLUS [Full-text](#)  
DN 135:33913  
TI Phenolic resins with phenyl maleimide functions: thermal characteristics  
and laminate composite properties  
AU Bindu, R. L.; Nair, C. P. Reghunadhan; Ninan, K. N.  
CS Propellant and Special Chemicals Group, Vikram Sarabhai Space Centre,  
Trivandrum, 695 022, India  
SO Journal of Applied Polymer Science (2001), 80(10), 1664-1674  
CODEN: JAPNAB; ISSN: 0021-8995  
PB John Wiley & Sons, Inc.  
DT Journal  
LA English  
AB Phenolic resins bearing varying concns. of Ph maleimide functions were  
synthesized by copolyg. phenol with N-(4-hydroxyphenyl)maleimide (HPM) and  
formaldehyde in the presence of an acid catalyst. The resins underwent a two-  
stage curing, through condensation of methylol groups and addition  
polymerization of maleimide groups. The cure characterization of the resin by  
dynamic mech. anal. confirmed the two-stage cure and the dominance of  
maleimide polymerization over methylol condensation in the network buildup  
process. The kinetics of both cure reactions, studied by the Rogers method,  
substantiated the earlier proposed cure mechanism for each stage. Although the  
initial decomposition temperature of the cured resin was not significantly  
improved, enhancing the crosslink d. through HPM improved thermal stability of

the material in a higher temperature regime. The anaerobic char yield also increased proportional to the maleimide content. Isothermal pyrolysis and anal. of the char confirmed that pyrolysis occurs by loss of hydrocarbon and nitrogenous products. The resins serve as effective matrixes in silica- and glass fabric-reinforced composites whose mech. properties are optimum for moderately crosslinked resins, in which failure occurs through a combination of fiber debonding and resin fracture.

CC 37-5 (Plastics Manufacture and Processing)

IT Phenolic resins, properties

RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (maleimide-modified; thermal characteristics and laminate composite properties of)

IT 206660-56-2, Formaldehyde-N-(4-hydroxyphenyl)maleimide-phenol copolymer

RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (thermal characteristics and laminate composite properties of)

IT 206660-56-2, Formaldehyde-N-(4-hydroxyphenyl)maleimide-phenol copolymer

RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (thermal characteristics and laminate composite properties of)

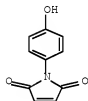
RN 206660-56-2 HCAPLUS

CN Formaldehyde, polymer with 1-(4-hydroxyphenyl)-1H-pyrrole-2,5-dione and phenol (CA INDEX NAME)

CM 1

CRN 7300-91-6

CMF C10 H7 N O3



CM 2

CRN 108-95-2

CMF C6 H6 O



CM 3

CRN 50-00-0  
CMF C H2 O

H<sub>2</sub>C=O

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 12 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2001:227798 HCAPLUS Full-text

DN 135:6463

TI Reactive Alder-ene blend of diallyl bisphenol A novolac and bisphenol A bismaleimide: synthesis, cure and adhesion studies

AU Gouri, C.; Nair, C. P. Reghunadhan; Ramaswamy, R.

CS Polymers and Special Chemicals Division, Vikram Sarabhai Space Centre, Thiruvananthapuram, 695022, India

SO Polymer International (2001), 50(4), 403-413

CODEN: PLYIEI; ISSN: 0959-8103

PB John Wiley & Sons Ltd.

DT Journal

LA English

AB A novel, addition-curable novolac resin (ABPF) was synthesized by the reaction of diallyl bisphenol A with formaldehyde using p-toluene sulfonic acid as the catalyst. The synthesis conditions were optimized to obtain soluble polymer of desirable mol. weight distribution which was characterized by FT-IR, NMR and SEC. ABPF was reactively blended with bisphenol A bismaleimide (BMIP) and cured through an Alder-ene reaction at high temps. The cure characteristics of BMIP-ABPF blend with a maleimide:allyl phenol stoichiometry of 1:1 were studied using FT-IR, DSC and DMA, which evidenced the multi-step cure reactions taking place in the system. Cure optimization was evaluated by DSC, DMA and adhesive property tests. The moderately crosslinked blend was conducive for achieving the optimum adhesive properties on aluminum substrates. Retention of the adhesive properties was greater than 100% at 150°C.

CC 38-3 (Plastics Fabrication and Uses)

IT Phenolic resins, preparation

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(novolac; reactive blending of diallyl bisphenol A novolac and bisphenol A bismaleimide)

IT 341989-99-9P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(reactive blending of diallyl bisphenol A novolac and bisphenol A bismaleimide)

IT 341989-99-9P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

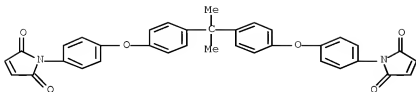
(reactive blending of diallyl bisphenol A novolac and bisphenol A bismaleimide)

RN 341989-99-9 HCAPLUS

CN Formaldehyde, polymer with 1,1'-[(1-methylethylidene)bis(4,1-phenyleneoxy-4,1-phenylene)]bis[1H-pyrrole-2,5-dione] and 4,4'-(1-methylethylidene)bis[2-(2-propenyl)phenol] (9CI) (CA INDEX NAME)

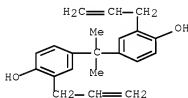
CM 1

CRN 79922-55-7  
CMF C35 H26 N2 O6



CM 2

CRN 1745-89-7  
CMF C21 H24 O2



CM 3

CRN 50-00-0  
CMF C H2 O

H<sub>2</sub>C=O

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 13 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2001:225346 HCAPLUS [Full-text](#)

DN 134:260199

TI Photosensitive resin composition, multilayer printed wiring board and process for production thereof

IN Fukase, Toshimitsu; Amano, Koji; Fujiwara, Makoto

PA Sumitomo Bakelite Co., Ltd., Japan

SO Eur. Pat. Appl., 16 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1087261	A1	20010328	EP 2000-120472	20000919 <--

KATHLEEN FULLER EIC1700 571/272-2506

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO

US 6528236 B1 20030304 US 2000-665106 20000920 <--  
JP 2001342230 A 20011211 JP 2000-288272 20000922 <--  
PRAI JP 1999-271393 A 19990924 <--  
JP 2000-13553 A 20000121 <--  
JP 2000-47383 A 20000224 <--  
JP 2000-92261 A 20000329 <--  
AB The invention provides a photosensitive resin composition that is excellent in heat resistance and adhesion to a wiring layer, and permits development with a high resolution even when an aqueous developing solution containing no organic solvent is used. The invention also provides a process for producing a multilayer printed wiring board by using the composition as an adhesive between circuits produced by a built-up method. In detail, the invention provides a photosensitive resin composition comprising (A) having in the mol.  $\geq 1$  phenolic hydroxyl group and  $\geq 1$  acryloyl or methacryloyl group, an unsatd. imide compound (B) and a photopolymer. initiator (C) as essential constituents, and optionally an epoxy compound (D) having  $\geq 2$  epoxy groups in the mol.; and a multilayer printed wiring board comprising wiring layers and insulating layers, which are alternately formed, the insulating layers being formed of the photosensitive resin composition. In addition, the invention provides a process for producing a multilayer printed wiring board using the photosensitive resin composition as an adhesive between circuit layers, which comprises the following steps carried out in the order in which they are described: (a) a step of forming an adhesive layer by applying the adhesive on the circuit-formation surface of a printed circuit board having  $\geq 1$  circuit layers already formed, and heating and drying the adhesive, or by pressure-bonding a dry film of the adhesive to the circuit-formation surface, (b) a step of curing the adhesive layer by setting a photomask having a via hole pattern formed thereon, on the adhesive layer, followed by light irradiation, (c) a step of removing the photomask, (d) a step of forming via holes by developing the nonirradiated portion of the adhesive layer with an alkaline aqueous solution, (e) a step of curing the treated adhesive layer by heating, and (f) a step of forming a conductor layer on the adhesive layer surface and in via hole portions by panel plating or pattern plating.  
IC ICM G03F007-027  
ICS G03F007-038  
CC 76-12 (Electric Phenomena)  
Section cross-reference(s): 74  
IT Phenolic resins, uses  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(novolak; photosensitive resin composition having excellent heat resistance and adhesion to wiring layer for production of multilayer printed wiring board)  
IT 330939-21-4P 330939-22-5P 330939-23-6P  
330939-24-7P 330939-25-8P 330939-26-9P  
330939-27-0P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(photosensitive resin composition having excellent heat resistance and adhesion to wiring layer for production of multilayer printed wiring board)  
IT 330939-21-4P  
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(photosensitive resin composition having excellent heat resistance and adhesion to wiring layer for production of multilayer printed wiring board)  
RN 330939-21-4 HCAPLUS  
CN Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol],

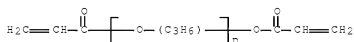
2-methyl-2-propenoate, polymer with 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione] and  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -(1-oxo-2-propenyl)oxy]poly[oxy(methyl-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 52496-08-9

CMF (C3 H6 O)n C6 H6 O3

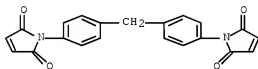
CCI IDS, PMS



CM 2

CRN 13676-54-5

CMF C21 H14 N2 O4



CM 3

CRN 121853-38-1

CMF (C15 H16 O2 . C H2 O)x . x C4 H6 O2

CM 4

CRN 79-41-4

CMF C4 H6 O2



CM 5

CRN 25085-75-0

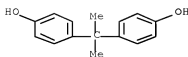
CMF (C15 H16 O2 . C H2 O)x

CCI PMS

CM 6

CRN 80-05-7

CMF C15 H16 O2



CM 7

CRN 50-00-0

CMF C H2 O

 $H_2C=O$ 

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 14 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2001:170196 HCAPLUS [Full-text](#)

DN 134:353826

TI Addition-cure-type phenolic resin based on alder-ene reaction: synthesis and laminate composite properties

AU Bindu, R. L.; Nair, C. P. Reghunadhan; Ninan, K. N.

CS Propellant and Special Chemicals Group, Vikram Sarabhai Space Centre, Trivandrum, 695022, India

SO Journal of Applied Polymer Science (2001), 80(5), 737-749

CODEN: JAPNAB; ISSN: 0021-8995

PB John Wiley &amp; Sons, Inc.

DT Journal

LA English

AB A maleimide-functional phenolic resin was reactively blended with an allyl-functional novolac in varying proportions. The two polymers were coreacted by an addition mechanism through Alder-ene and Wagner-Jauregg reactions to form a crosslinked network system. The cure characterization was done by differential scanning calorimetry and dynamic mech. anal. The system underwent a multistep curing process over a temperature range of 110-270°C. Although the cure profiles were independent of the composition, the presence of maleimide led to a reduced isothermal gel time of the blend. Increasing the allylphenol content decreased the crosslinking in the cured matrix, leading to enhanced toughness and improved resin-dominant mech. properties of the resultant silica laminate composites. Changing the reinforcement from silica to glass resulted in further amelioration of the resin-reinforcement interaction, but the resin-dominant properties of the composite remained unaltered. Increasing the maleimide content resulted in enhanced thermal stability. Integrating both the reactive groups in a single polymer and its curing led to enhanced thermal stability and Tg, but to decreased mech. properties of the laminate composites. This can be attributed to a brittle matrix resulting from enhanced crosslinking facilitated by interaction of the reactive groups located on the polymer of an identical backbone structure. The cured polymers showed a Tg in the range of 170-190°C.

CC 37-3 (Plastics Manufacture and Processing)

IT Laminated plastics, preparation



Phenolic resins, preparation

Polymer blends

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(preparation and laminated composite properties of addition-cure-type

phenolic

resin based on alder-ene reaction)

IT 139375-22-7P, 2-Allylphenol-formaldehyde-4-maleimidolphenol-phenol  
copolymer 186000-14-6P, Allylphenol-formaldehyde-phenol copolymer  
266660-56-2P, Formaldehyde-N-(4-hydroxyphenyl)maleimide-phenol  
copolymer

RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic  
preparation); PREP (Preparation); USES (Uses)

(preparation and laminated composite properties of addition-cure-type

phenolic

resin based on alder-ene reaction)

IT 139375-22-7P, 2-Allylphenol-formaldehyde-4-maleimidolphenol-phenol  
copolymer

RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic  
preparation); PREP (Preparation); USES (Uses)

(preparation and laminated composite properties of addition-cure-type

phenolic

resin based on alder-ene reaction)

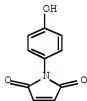
RN 139375-22-7 HCAPLUS

CN Formaldehyde, polymer with 1-(4-hydroxyphenyl)-1H-pyrrole-2,5-dione,  
phenol and 2-(2-propenyl)phenol (9CI) (CA INDEX NAME)

CM 1

CRN 7300-91-6

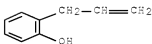
CMF C10 H7 N O3



CM 2

CRN 1745-81-9

CMF C9 H10 O



CM 3

CRN 108-95-2

CMF C6 H6 O



CM 4

CRN 50-00-0

CMF C H2 O

H2C=O

RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 15 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2000:827157 HCAPLUS Full-text

DN 134:238283

TI Imido-phenolic-triazine network polymers derived from maleimide-functional novolac

AU Reghunadhan Nair, C. P.; Mathew, D.; Ninan, K. N.

CS Propellant and Special Chemicals Group, Vikram Sarabhai Space Centre, Trivandrum, 695022, India

SO European Polymer Journal (2000), Volume Date 2001, 37(2), 315-321

CODEN: EUPJAG; ISSN: 0014-3057

PB Elsevier Science Ltd.

DT Journal

LA English

AB Polycyanate esters of an imide-modified novolac of different maleimide-content were synthesized and characterized. The resins underwent a two-stage independent thermal curing through trimerization of the cyanate groups as well as the addition polymerization of the maleimide moieties. On heating, the cyanate esters were transformed to the imido-phenolic-triazine network polymers. The cured resins exhibited a higher initial decomposition temperature compared to the cured maleimide novolacs. Despite possessing higher crosslink d., the imido phenolic triazines exhibited inferior thermal properties in comparison to a conventional phenolic-triazine resin. The presence of triazine crosslinks were found to disfavor the char forming reaction of the otherwise high-char yielding maleimide-novolac resins. Kinetics of the nonisothermal degradation revealed a lower activation energy for the phenolic-triazine in contrast to the imido phenolic triazine which was kinetically compensated by a diminished frequency factor to give an overall decreased rate of decomposition for the former.

CC 37-6 (Plastics Manufacture and Processing)

IT Phenolic resins, preparation

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(novolac; preparation and thermal degradation of imido-phenolic-triazine network polymers derived from maleimide-functional novolac)

IT Phenolic resins, preparation

KATHLEEN FULLER EIC1700 571/272-2506

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)

(preparation and thermal degradation of imido-phenolic-triazine network  
polymers

derived from maleimide-functional novolac)

IT 9003-35-4E, Phenol-formaldehyde copolymer 87397-54-4P,  
Phenol-formaldehyde copolymer cyanate 206660-56-2E,  
Formaldehyde-4-hydroxyphenylmaleimide-phenol copolymer  
330150-80-6P, Formaldehyde-4-hydroxyphenylmaleimide-phenol  
copolymer cyanate

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)

(preparation and thermal degradation of imido-phenolic-triazine network  
polymers

derived from maleimide-functional novolac)

IT 9003-35-4E, Phenol-formaldehyde copolymer

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)

(preparation and thermal degradation of imido-phenolic-triazine network  
polymers

derived from maleimide-functional novolac)

RN 9003-35-4 HCAPLUS

CN Phenol, polymer with formaldehyde (CA INDEX NAME)

CM 1

CRN 108-95-2

CMF C6 H6 O



CM 2

CRN 50-00-0

CMF C H2 O



RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 16 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2000:69593 HCAPLUS Full-text

DN 132:208222

TI Phenolic resins bearing maleimide groups: synthesis and characterization

AU Bindu, R. L.; Nair, C. P. Reghunadhan; Ninan, K. N.

CS Propellant and Special Chemicals Group, Vikram Sarabhai Space Centre,  
Thiruvananthapuram, 695022, India

SO Journal of Polymer Science, Part A: Polymer Chemistry (2000),  
38(3), 641-652

CODEN: JPACEC; ISSN: 0887-624X

KATHLEEN FULLER EIC1700 571/272-2506

PB John Wiley &amp; Sons, Inc.

DT Journal

LA English

AB Novel phenolic novolac resins, bearing maleimide groups and capable of undergoing curing principally through the addition polymerization of these groups, were synthesized by the polymerization of a mixture of phenol and N-(4-hydroxyphenyl)maleimide (HPM) with formaldehyde in the presence of an acid catalyst. The polymerization conditions were optimized to get gel-free resins. The resins were characterized by chemical, spectral, and thermal analyses. Differential scanning calorimetry and dynamic mech. anal. revealed an unexpected two-stage curing for these systems. Although the cure at around 275°C was attributable to the addition polymerization reaction of the maleimide groups, the exotherm at around 150 to 170°C was ascribed to the condensation reaction of the methylol groups formed in minor quantities on the Ph ring of HPM. Polymerization studies of nonhydroxy-functional N-Ph maleimides revealed that the Ph groups of these mols. were activated toward an electrophilic substitution reaction by the protonated methylol intermediates formed by the acid-catalyzed reaction of phenol and formaldehyde. On a comparative scale, HPM was less reactive than phenol toward formaldehyde. The presence of the phenolic group on N-Ph maleimide was not needed for its copolymn. with phenol and formaldehyde.

CC 35-5 (Chemistry of Synthetic High Polymers)

IT Phenolic resins, preparation

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(novolak; preparation of curable novolak resins by polymerization of phenol

and

formaldehyde with (hydroxyphenyl)maleimide)

IT 77818-02-1P, Phenol-formaldehyde-N-phenylmaleimide copolymer  
206660-56-2P, Phenol-formaldehyde-N-(4-hydroxyphenyl)maleimide  
copolymerRL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)(preparation of curable novolak resins by polymerization of phenol and  
formaldehyde

with (hydroxyphenyl)maleimide)

IT 77818-02-1F, Phenol-formaldehyde-N-phenylmaleimide copolymer

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP  
(Preparation); RACT (Reactant or reagent)(preparation of curable novolak resins by polymerization of phenol and  
formaldehyde

with (hydroxyphenyl)maleimide)

RN 77818-02-1 HCAPLUS

CN Formaldehyde, polymer with phenol and 1-phenyl-1H-pyrrole-2,5-dione (9CI)  
(CA INDEX NAME)

CM 1

CRN 941-69-5

CMF C10 H7 N O2



CM 2

CRN 108-95-2  
CMF C6 H6 O



CM 3

CRN 50-00-0  
CMF C H2 O

H2C=O

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 17 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1999:716189 HCAPLUS Full-text

DN 131:323443

TI Thermosetting resin compositions and friction materials therefrom

IN Yokoyama, Mineo; Mori, Kunio; Takahata, Shigeo

PA Dainippon Ink and Chemicals, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11310687	A	19991109	JP 1998-120647	19980430 <--
PRAI	JP 1998-120647		19980430	<--	

AB The comps. contain phenolic resins, phenolic compds. containing  $\geq 2$  methallyl group, and polymaleimide compds. Thus, a composition comprising phenol-formaldehyde copolymer (prepared in the presence of NaOH) and a reaction product of 2,2-bis[4-hydroxy-3-(2-methyl-2-propenyl)phenyl]propane and bis(4-maleimidophenyl)methane was impregnated into m-aramid fiber and after curing gave a 10-ply laminate showing bending strength 130 at 25° and 119 Mpa at 200°. A friction material prepared from the composition showed good abrasion resistance.

IC ICM C08L061-06

ICS C08K005-13; C08K005-16; C09K003-14; F16D013-62; F16D069-02

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38

IT Phenolic resins, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(resol; thermosetting resin comps. for friction materials)

IT 249300-28-5P 249300-29-6P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(thermosetting resin comps. for friction materials)

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IT 249300-28-5P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(thermosetting resin compns. for friction materials)

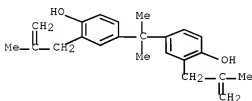
RN 249300-28-5 HCAPLUS

CN Formaldehyde, polymer with 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione], 4,4'-(1-methylethylidene)bis[2-(2-methyl-2-propenyl)phenol] and phenol (9CI) (CA INDEX NAME)

CM 1

CRN 136338-84-6

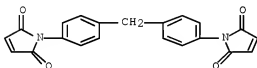
CMF C23 H28 O2



CM 2

CRN 13676-54-5

CMF C21 H14 N2 O4



CM 3

CRN 108-95-2

CMF C6 H6 O



CM 4

CRN 50-00-0

CMF C H2 O

H2C=O

L55 ANSWER 18 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1999:674218 HCAPLUS Full-text

DN 132:3781

TI Effect of elastomer modification on the adhesive characteristics of maleimide-functional phenolic resins

AU Gouri, C.; Nair, C. P. Reghunadhan; Ramaswamy, R.

CS Polymers and Special Chemicals Division, Vikram Sarabhai Space Centre, Thiruvananthapuram, 695022, India

SO Journal of Applied Polymer Science (1999), 74(9), 2321-2332

CODEN: JAPNAB; ISSN: 0021-8995

PB John Wiley &amp; Sons, Inc.

DT Journal

LA English

AB The effect of addition of elastomeric modifiers on the adhesive properties like lap shear strength and T-peel strength of an addition curable, maleimide functional novolac phenolic resin (PMF), self-cured and cocured with a novolac epoxy resin, was studied using aluminum adherends. The modifiers used were (1) two grades of carboxyl terminated butadiene acrylonitrile copolymer (CTBN) of different mol. wts., (2) a low mol. weight, epoxidized hydroxyl-terminated polybutadiene, and (3) a high mol. weight acrylate terpolymer containing pendant epoxy functionality. The adhesive properties, when examined as a function of the varying concns. of the additives, ranging from 10 to 30 parts per hundred parts (phr) of the resin, were found to depend on the nature of the matrix being modified as well as on the nature and concentration of the elastomer. The adhesive properties at ambient temperature of the self-cured, highly brittle PMF resin were dramatically improved by the inclusion of all the elastomers, the increase being substantial in the case of high mol. weight CTBN. For the more rigid, less ductile, epoxy-cured PMF system, the adhesive properties were marginally improved by the high mol. weight CTBN, whereas the other elastomers were practically ineffective. For both self-cured and epoxy-cured PMF systems, the inclusion of these elastomers generally decreased the high-temperature adhesive properties, implying impairment of thermal characteristics, evidenced also from their dynamic mech. spectra. The presence of phase-separated elastomer particles in the modified systems has been evidenced from scanning electron micrographs.

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 39

IT Phenolic resins, properties

RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (epoxy, novolac; effect of elastomer modification on adhesive characteristics of maleimide-functional phenolic resins)

IT 64859-69-4D, Araldite EPN 1139, reaction products with formaldehyde-4-maleimidophenol copolymer 142753-60-4 206660-56-2, Formaldehyde-4-maleimidophenol-phenol copolymer

RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (effect of elastomer modification on adhesive characteristics of maleimide-functional phenolic resins)

IT 142753-60-4

RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses) (effect of elastomer modification on adhesive characteristics of maleimide-functional phenolic resins)

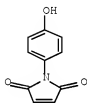
RN 142753-60-4 HCAPLUS

CN Formaldehyde, polymer with (chloromethyl)oxirane, 1-(4-hydroxyphenyl)-1H-pyrrole-2,5-dione, 4,4'-(1-methylethylidene)bis[phenol] and phenol (9CI)  
(CA INDEX NAME)

CM 1

CRN 7300-91-6

CMF C10 H7 N O3



CM 2

CRN 108-95-2

CMF C6 H6 O



CM 3

CRN 106-89-8

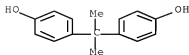
CMF C3 H5 Cl O



CM 4

CRN 80-05-7

CMF C15 H16 O2





CM 5

CRN 50-00-0

CMF C H2 O

H2C=O

RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 19 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1999:352141 HCAPLUS Full-text

DN 131:116973

TI Adhesive and thermal characteristics of maleimide-functional novolak resins

AU Gouri, C.; Nair, C. P. Reghunadhan; Ramaswamy, R.

CS Polymers and Special Chemicals Division, Vikram Sarabhai Space Centre, Thiruvananthapuram, 695022, India

SO Journal of Applied Polymer Science (1999), 73(5), 695-705

CODEN: JAPNAB; ISSN: 0021-8995

PB John Wiley &amp; Sons, Inc.

DT Journal

LA English

AB A novel, addition-curable maleimide-functional novolak phenolic resin was evaluated for adhesive properties such as lap shear strength and T-peel strength using aluminum adherends, when thermally self-cured and cocured with epoxy resins. The adhesive properties of the self-cured resin, although inferior at ambient temperature, improved at high temperature and were found to depend on the cure conditions. When cocured with epoxy resin, the adhesive properties improved significantly and showed a strong dependence on the nature of the epoxy resin used, on the stoichiometry of the reactants, on the concentration of imide groups in the phenolic resin, and on the extent of polymerization of the maleimide groups. Optimum adhesive properties were obtained for novolak resins with a moderate concentration of maleimide groups, taken on a 1:1 hydroxyl-epoxy stoichiometry with a novolak epoxy resin. In comparison to the conventional novolak, the imide-novolak contributed to improved adhesion and better adhesive property retention at higher temperature when cured with the novolak-epoxy resin.

CC 37-5 (Plastics Manufacture and Processing)

Section cross-reference(s): 38

IT Phenolic resins, preparation

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(epoxy, novolak; preparation and adhesive and thermal characteristics of maleimide-containing novolak resins)

IT Phenolic resins, preparation

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(novolak; preparation and adhesive and thermal characteristics of maleimide-containing novolak resins)

IT 142753-60-4P 206538-77-4P 206660-56-2P

232604-00-1P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

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(preparation and adhesive and thermal characteristics of maleimide-containing

novolak resins)

IT 142753-60-4P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(preparation and adhesive and thermal characteristics of maleimide-containing

novolak resins)

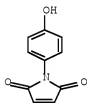
RN 142753-60-4 HCAPLUS

CN Formaldehyde, polymer with (chloromethyl)oxirane, 1-(4-hydroxyphenyl)-1H-pyrrole-2,5-dione, 4,4'-(1-methylethylidene)bis[phenol] and phenol (9CI)  
(CA INDEX NAME)

CM 1

CRN 7300-91-6

CMF C10 H7 N O3



CM 2

CRN 108-95-2

CMF C6 H6 O



CM 3

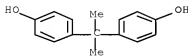
CRN 106-89-8

CMF C3 H5 Cl O



CM 4

CRN 80-05-7  
CMF C15 H16 O2



CM 5

CRN 50-00-0  
CMF C H2 O

H2C=O

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 20 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1999:261007 HCAPLUS [Full-text](#)

DN 130:339112

TI Phenolic resin adhesives and adhesive tapes having reduced thermal shrinkage for electronic parts

IN Aoki, Shoji; Narushima, Hitoshi; Tsukamoto, Miwa; Shiozawa, Takashi; Yoshioka, Ken; Yamada, Hiromi

PA Tomoe-gawa Paper Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11111760	A	19990423	JP 1997-289068	19971006 <--
	JP 3326372	B2	20020924		
PRAI	JP 1997-289068		19971006 <--		

AB Title adhesives comprise trihydroxyphenylmethane-based phenolic resins. Title tapes comprise dielec. films laminated with the adhesives. The adhesives and adhesive tapes are useful for tape automated bonding. Thus, A PET film was coated with an adhesive composition composed of Macromelt 6239 (polyamide) 11.25, BMI MP (bismaleimide resin) 3.4, Epikote 1031S (epoxy resin) 5.5, HOC6H4[CH(C6H4OH-p)C6H3(OH)]nH 2.75, and 2-ethyl-4- methylimidazole 0.22 parts, and covered with a PET film to give a low-shrinkage adhesive film.

ICM H01L021-60

ICS H01L021-60; C09J007-02; C09J161-08; C09J163-00; H01L021-52;

C08G008-04

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 76

IT Phenolic resins, uses

Phenolic resins, uses

Phenolic resins, uses

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or

engineered material use); PREP (Preparation); USES (Uses)  
(epoxy-polyamide-; adhesives and adhesive tapes having reduced thermal shrinkage for electronic parts)

IT 223769-76-4P 223769-78-6P 224300-34-9P 224303-38-2P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(adhesives and adhesive tapes having reduced thermal shrinkage for electronic parts)

IT 223769-76-4P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(adhesives and adhesive tapes having reduced thermal shrinkage for electronic parts)

RN 223769-76-4 HCAPLUS

CN Benzaldehyde, 4-hydroxy-, polymer with 2,2',2'',2'''-[1,2-ethanediylidene-tetrakis(phenyleneoxymethylene)]tetrakis(oxirane), Macromelt 6239, phenol and 1,1'-(1,3-phenylene)bis[1H-pyrrole-2,5-dione] (9CI) (CA INDEX NAME)

CM 1

CRN 99820-90-3

CMF Unspecified

CCI PMS, MAN

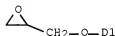
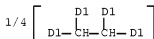
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 27043-37-4

CMF C38 H38 O8

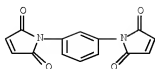
CCI IDS



CM 3

CRN 3006-93-7

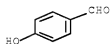
CMF C14 H8 N2 O4



CM 4

CRN 123-08-0

CMF C7 H6 O2



CM 5

CRN 108-95-2

CMF C6 H6 O



L55 ANSWER 21 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1998:742585 HCAPLUS [Full-text](#)

DN 130:53124

TI Fire-, heat-, and moisture-resistant epoxy resin compositions with good moldability

IN Ikeda, Hisashi

PA Dainippon Ink and Chemicals, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10306200	A	19981117	JP 1997-117977	19970508 <--
PRAI	JP 1997-117977		19970508	<--	

AB Title compns., useful for electronic packaging materials, laminates, etc., contain (a) epoxy resins prepared by reacting epihalohydrines with polyphenols that are reaction products of phenols with alicyclic hydrocarbons containing 2 double bonds, (b) phenolic resins (not containing unreacted aldehydes and methylol groups) prepared from phenols, triazine ring-containing compds., and aldehydes as curing agents, and (c) imides having  $\geq 2$  ethylenic unsatd. groups. Thus, 94 parts phenol was reacted with 9.4 parts melamine and 43 parts of 41.5% formalin to give a phenolic resin, 100 parts of which was kneaded with

KATHLEEN FULLER EIC1700 571/272-2506

Epilcon HP 7200 (epoxy resin) 90, Epilcon 153 (epoxy resin) 10, and 4,4'-diphenylmethanebismaleimide 100 parts to give a composition showing melt viscosity at 150° 2.2 P. Then, the composition was transfer molded and cured to give a test piece showing UL rating V-0, Tg 198°, and moisture resistance 0.2% in PCT at 120° for 2 h.

IC ICM C08L061-34

ICS C08G059-62

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 76

IT Imides

Phenolic resins, uses

RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(crosslinking agents; epoxy resin compns. containing specified phenolic resins and imides as curing agents)

IT 217180-61-5P 217180-64-8P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(epoxy resin compns. containing specified phenolic resins and imides as curing agents)

IT 217180-61-5P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(epoxy resin compns. containing specified phenolic resins and imides as curing agents)

RN 217180-61-5 HCAPLUS

CN Formaldehyde, polymer with Epilcon HP 7200, 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione], 2,2'-[1-(methylethylidene)bis[(2,6-dibromo-4,1-phenylene)oxymethylene]]bis[oxirane], phenol and 1,3,5-triazine-2,4,6-triamine (9CI) (CA INDEX NAME)

CM 1

CRN 186844-71-3

CMF Unspecified

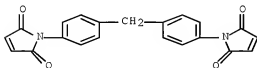
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 13676-54-5

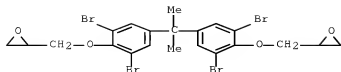
CMF C21 H14 N2 O4



CM 3

CRN 3072-84-2

CMF C21 H20 Br4 O4



CM 4

CRN 108-95-2

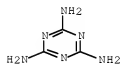
CMF C6 H6 O



CM 5

CRN 108-78-1

CMF C3 H6 N6



CM 6

CRN 50-00-0

CMF C H2 O



L55 ANSWER 22 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1998:742184 HCAPLUS [Full-text](#)

DN 129:344040

TI Phenolic resin composition and manufacture from triazine, phenol, and aldehyde useful for hardeners and binders

IN Ikeda, Takashi

PA Dainippon Ink and Chemicals, Inc., Japan

SO Eur. Pat. Appl., 16 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

KATHLEEN FULLER EIC1700 571/272-2506

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 877040	A1	19981111	EP 1998-108347	19980507 <--
	EP 877040	B1	20000412		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 11021419	A	19990126	JP 1998-120644	19980430 <--
	JP 3975552	B2	20070912		
	CN 1208054	A	19990217	CN 1998-109841	19980508 <--
	CN 1119379	B	20030827		
	US 5952447	A	19990914	US 1998-74404	19980508 <--
	TW 413696	B	20001201	TW 1998-87107121	19980508 <--
PRAI	JP 1997-119389	A	19970509	<--	
AB	Triazine-modified novolak phenol resin is prepared by the steps of (1) reacting (i) adjusting a pH of a mixture of phenols, triazines and aldehydes to 5-10, (ii) reacting the mixture under the condition that the aldehydes are not volatilized, (iii) condensing and removing H <sub>2</sub> O in the system; then (2) repeating processes (ii) and (iii) at a higher temperature than in (1); and (3) repeating (ii) and (iii) at a higher temperature than in (2); where a dimethylene ether bond in the mol. is converted to a methylene bond. A novolak prepared from formalin, phenol, and benzoguanamine and having triazine reaction rate 92% at phenol/triazine ratio 85/15 was used as a hardener for Epilcon 850 resin mixing/curing at 180°/2 h to produce a cast sheet having glass transition temperature 146°, boiling water absorption 0.3%, and flame extinguishing time (UL test) 30 s.				
IC	ICM C08G014-10				
	ICS C08L061-34				
CC	37-3 (Plastics Manufacture and Processing)				
	Section cross-reference(s): 35, 38				
IT	Phenolic resins, preparation				
	RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(crosslinked product with brominated epoxy resin and tung oil modified varnish and triazine modified novolak resin; cast sheet with flame resistant property and low dielec. constant)				
IT	Phenolic resins, preparation				
	RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(novolak, triazine-modified; preparation for epoxy hardeners and binders for friction materials and prepreps, and paper laminates)				
IT	9903-35-4DP, Formaldehyde-phenol copolymer, crosslinked product with brominated epoxy resin and tung oil modified varnish and triazine modified novolak resin 33294-14-3DP, Epilcon 153, crosslinked product with tung oil modified varnish and phenolic resin and triazine modified novolak resin 190911-93-4F, Benzoguanamine-4,4'-diphenylmethanebis(maleimide)-formaldehyde-phenol copolymer				
	RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(cast sheet with flame resistant property and low dielec. constant)				
IT	9903-35-4DP, Formaldehyde-phenol copolymer, crosslinked product with brominated epoxy resin and tung oil modified varnish and triazine modified novolak resin				
	RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(cast sheet with flame resistant property and low dielec. constant)				
RN	9003-35-4 HCAPLUS				
CN	Phenol, polymer with formaldehyde (CA INDEX NAME)				



CM 1  
CRN 108-95-2  
CMF C6 H6 O



CM 2  
CRN 50-00-0  
CMF C H2 O



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 23 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 1998:642125 HCAPLUS Full-text  
DN 129:303220  
TI Thermosetting resin compositions and their cured products for printed circuit boards  
IN Hirai, Yasuyuki; Aisawa, Teruki; Nagase, Hideo; Sato, Yoshinori; Kamoshita, Shinichi; Kakitani, Minoru; Numata, Shunichi  
PA Hitachi Chemical Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 8 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	JP 10259248	A	19980929	JP 1997-112864	19970430 <--
	JP 2004217941	A	20040805	JP 2004-130767	20040427 <--
PRAI	JP 1997-7514	A	19970120	<--	
	JP 1997-112864	A3	19970430	<--	
AB	Title compns. contain dihydrobenzoxazine ring-containing thermosetting resins (A) and maleimido ring-containing thermosetting resins (B) at B/(A + B) of 3-30%. A mixture of A (prepared from HCHO, phenol and aniline) 1,000, HCHO-phenol copolymer novolak resin 200, and 4,4'-diphenylmethane bismaleimide 100 g was kneaded, pulverized, and press molded at 180° to form a plate with gel time 80 s, glass transition temperature 189°, and flexural strain 3.8%.				
IC	ICM C08G073-00				
CC	37-3 (Plastics Manufacture and Processing) Section cross-reference(s): 76				
IT	Phenolic resins, preparation Polyimides, preparation RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (bismaleimide-containing dihydrobenzoxazine thermosetting resin compns. for prepreps for printed circuit boards)				

IT 214476-01-4P 214476-02-5P 214476-03-6P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(bismaleimide-containing dihydrobenzoxazine thermosetting resin compns. for prepreps for printed circuit boards)

IT 214476-05-8DP, polymers with bisphenol A-based brominated epoxy resins  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(prepreps of; bismaleimide-containing dihydrobenzoxazine thermosetting resin compns. for prepreps for printed circuit boards)

IT 214476-01-4P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(bismaleimide-containing dihydrobenzoxazine thermosetting resin compns. for prepreps for printed circuit boards)

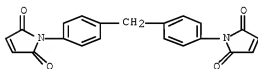
RN 214476-01-4 HCAPLUS

CN Formaldehyde, polymer with benzenamine, 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione] and phenol (9CI) (CA INDEX NAME)

CM 1

CRN 13676-54-5

CMF C21 H14 N2 O4



CM 2

CRN 108-95-2

CMF C6 H6 O



CM 3

CRN 62-53-3

CMF C6 H7 N



CM 4

CRN 50-00-0

CMF C H2 O

 $H_2C \equiv O$ 

L55 ANSWER 24 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1998:553508 HCAPLUS Full-text

DN 129:231448

TI Isolation, characterization, and toxicological aspects of volatile organophosphorus compounds from the combustion of flame-retarded epoxy resins with phosphonate substructures

AU Kampke-Thiel, Kathrin; Lenoir, Dieter; Kettrup, Antonius; Herdtweck, Eberhardt; Gleich, Dieter; Thiel, Werner R.

CS Institut für Ökologische Chemie GSF-Forschungszentrum für Umwelt und Gesundheit, München, D-85758, Germany

SO Chemistry--A European Journal (1998), 4(8), 1581-1586

CODEN: CEUJED; ISSN: 0947-6539

PB Wiley-VCH Verlag GmbH

DT Journal

LA English

AB The thermal behavior of epoxy resins used for electronic materials as laminates and molding compds. bearing phosphonate substructures as new fire retardants was investigated at 400, 600, and 800°C. While the phosphorus species are converted at higher temps. to P4O10, at lower temps. a transesterification reaction occurs that results in the formation of a cyclic phosphonic ester (CPE) and homologues. Independent synthesis of CPE allowed the final elucidation of its mol. structure, and its spectroscopic, structural, and toxicol. features.

CC 37-5 (Plastics Manufacture and Processing)

IT Phenolic resins, properties

Phenolic resins, properties

RL: PRP (Properties)

(epoxy; isolation, characterization, and toxicol. aspects of volatile organophosphorus compds. from combustion of flame-retarded epoxy resins with phosphonate substructures)

IT 212905-31-2

RL: PRP (Properties)

(isolation, characterization, and toxicol. aspects of volatile organophosphorus compds. from combustion of flame-retarded epoxy resins with phosphonate substructures)

IT 212905-31-2

RL: PRP (Properties)

(isolation, characterization, and toxicol. aspects of volatile organophosphorus compds. from combustion of flame-retarded epoxy resins with phosphonate substructures)

RN 212905-31-2 HCAPLUS

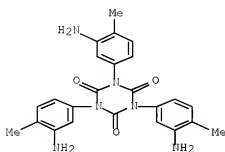
CN Formaldehyde, polymer with phenol and 1,3,5-tris(3-amino-4-methylphenyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)

CM 1

CRN 108043-51-2

KATHLEEN FULLER EIC1700 571/272-2506

CMF C24 H24 N6 O3



CM 2

CRN 108-95-2

CMF C6 H6 O



CM 3

CRN 50-00-0

CMF C H2 O



RE.CNT 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 25 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1998:286530 HCAPLUS [Full-text](#)

DN 128:309031

TI Addition-cure type phenolic resin based on Wagner-Jauregg reaction

AU Bindu, R. L.; Nair, C. P. Reghunadhan; Ninan, K. N.

CS Propellant and Special Chemicals Group, Vikram Sarabhai Space Centre,  
Trivandrum, 695022, India

SO Macromolecules--New Frontiers, Proceedings of the IUPAC International  
Symposium on Advances in Polymer Science and Technology, Chennai, India,  
Jan. 5-9, 1998 (1998), Volume 2, 885-889. Editor(s):  
Srinivasan, K. S. V. Publisher: Allied Publishers Ltd., New Delhi, India.  
CODEN: 65XTAB

DT Conference

LA English

AB Maleimide- and allyl-functional phenolic resins were synthesized,  
characterized and co-cured through the Wagner-Jauregg reaction to obtain a

KATHLEEN FULLER EIC1700 571/272-2506

novel addition-cure type phenolic resin. The cure characteristics of the blend were independent of composition, whereas the thermal stability of the cured network depended on composition. Although increasing the allyl content reduced the thermal stability, it was conducive for enhancing the mech. properties in silica laminate composites, as reflected from the trends in flexural strength and compressive strength.

- CC 37-3 (Plastics Manufacture and Processing)
- IT Phenolic resins, preparation  
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)  
(preparation of allyl- and maleimide-functionalized phenolic resins, curing of their blends, and properties of their silica fabric composites)
- IT 206660-57-3, Allylphenol-formaldehyde-4-maleimidophenol-phenol copolymer  
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PROC (Process); USES (Uses)  
(preparation of allyl- and maleimide-functionalized phenolic resins, curing of their blends, and properties of their silica fabric composites)
- IT 186000-14-6P, Allylphenol-formaldehyde-phenol copolymer  
206660-56-2P, Formaldehyde-4-maleimidophenol-phenol copolymer  
RL: POF (Polymer in formulation); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
(preparation of allyl- and maleimide-functionalized phenolic resins, curing of their blends, and properties of their silica fabric composites)
- IT 206660-57-3, Allylphenol-formaldehyde-4-maleimidophenol-phenol copolymer  
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PROC (Process); USES (Uses)  
(preparation of allyl- and maleimide-functionalized phenolic resins, curing of their blends, and properties of their silica fabric composites)
- RN 206660-57-3 HCAPLUS
- CN Formaldehyde, polymer with 1-(4-hydroxyphenyl)-1H-pyrrole-2,5-dione, phenol and (2-propenyl)phenol (9CI) (CA INDEX NAME)

CM 1

CRN 26761-75-1

CMF C9 H10 O

CCI IDS



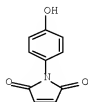
D1—OH

D1—CH<sub>2</sub>—CH=CH<sub>2</sub>

CM 2

CRN 7300-91-6

CMF C10 H7 N O3



CM 3

CRN 108-95-2

CMF C6 H6 O



CM 4

CRN 50-00-0

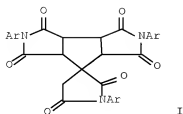
CMF C H2 O



RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 26 OF 84 HCAPLUS COPYRIGHT 2008 ACS on SIN  
AN 1998:38720 HCAPLUS Full-text  
DN 128:141485  
TI Imide ring-containing phenolic resin, its manufacture, and epoxy resin  
composition containing it  
IN Shibahara, Sumio; Ota, Masaru  
PA Sumitomo Bakelite Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10007769	A	19980113	JP 1996-167659	19960627 <--
	JP 3719781	B2	20051124		
FRAI	JP 1996-167659		19960627	<--	
GI					

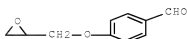


- AB Title phenolic resin comprises trimer of monomaleimide containing ≥1 phenolic OH in a mol. such as I (Ar = phenolic OH-containing group). The phenolic resin is manufactured by trimerizing the monomaleimide in the presence of organic P compound as a catalyst. Title composition, useful as solder-heat-resistant sealants for semiconductors, comprises epoxy resin, the phenolic resin, and inorg. filler. Thus, a test chip was sealed with a composition comprising o-cresol novolak epoxy resin 10.2, phenolic resin (obtained by trimerization of p-hydroxyphenylmaleimide using PPh3) 6.6, phenol novolak resin hardener 1.7, spherical silica powder 80.0, epoxy-type silane coupling agent 0.3, PPh3 0.2, carbon black 0.5, and carnauba wax 0.5 part to give a test device showing good solder moisture and heat resistance.
- IC ICM C08G059-62  
ICS C07D487-20
- CC 37-2 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38, 76
- IT Phenolic resins, preparation  
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
(phenolic OH-containing maleimide trimers as hardeners for epoxy resin sealants for semiconductors)
- IT 201735-80-ODP, copolymer with p-xylylene-modified phenol resin  
201735-81-1P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(phenolic OH-containing maleimide trimers as hardeners for epoxy resin sealants for semiconductors)
- IT 201735-81-1P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(phenolic OH-containing maleimide trimers as hardeners for epoxy resin sealants for semiconductors)
- RN 201735-81-1 HCAPLUS
- CN Benzaldehyde, 4-hydroxy-, polymer with 1-(4-hydroxyphenyl)-1H-pyrrole-2,5-dione trimer, 4-(oxiranymethoxy)benzaldehyde, phenol and (phenoxymethyl)oxirane (9CI) (CA INDEX NAME)

CM 1

CRN 14697-49-5

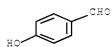
CMF C10 H10 O3



CM 2

CRN 123-08-0

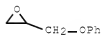
CMF C7 H6 O2



CM 3

CRN 122-60-1

CMF C9 H10 O2



CM 4

CRN 108-95-2

CMF C6 H6 O



CM 5

CRN 201735-78-6

CMF (C10 H7 N O3)3

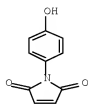
CCI PMS

CM 6

CRN 7300-91-6

CMF C10 H7 N O3





L55 ANSWER 27 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1997:433437 HCAPLUS Full-text

DN 127:51555

TI Epoxy resin composition containing unsaturated imides and phenolic resins

IN Ikeda, Hisashi; Miwa, Koji

PA Dainippon Ink and Chemicals, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09124775	A	19970513	JP 1995-287195	19951106 <--
PRAI	JP 1995-287195		19951106	<--	
OS	MARPAT 127:51555				

AB The title compns. contain epoxy resins, imides containing  $\geq 2$  unsatd. groups and, as crosslinking agents, phenolic resin compns. consisting of mixts. or condensation products of phenols, compds. containing triazine rings, and aldehydes, where the phenolic resins do not contain unreacted aldehydes and the resin is substantially free of methylol groups. The compns. have good heat resistance, moisture resistance, dielec. properties, thermal expansion properties, and fire resistance, and are useful as sealants or electronic materials. A composition contained formaldehyde-melamine-phenol copolymer, 4,4'-diphenylmethane bismaleimide, and Epiclon 850.

IC ICM C08G059-62

ICS C08G059-40

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 76

IT Phenolic resins, preparation

Epoxy resins, preparation

Epoxy resins, preparation

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)

(aminoplast-epoxy, unsatd. imide-; epoxy resin composition containing

unsatd.

imides and phenolic resins)

IT Phenolic resins, preparation

Epoxy resins, preparation

Epoxy resins, preparation

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)

(aminoplast-epoxy; epoxy resin composition containing unsatd. imides and phenolic resins)

IT 191030-14-5P 191030-16-7P 191030-18-9P

191030-20-3P 191030-22-5P 191030-24-7P

191030-26-9P

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)

(epoxy resin composition containing unsatd. imides and phenolic resins)

IT 191030-14-5P

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)  
(epoxy resin composition containing unsatd. imides and phenolic resins)

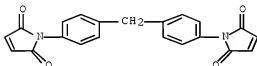
RN 191030-14-5 HCAPLUS

CN Formaldehyde, polymer with (chloromethyl)oxirane, 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione], 4,4'-(1-methylethylidene)bis[phenol], phenol and 1,3,5-triazine-2,4,6-triamine (9CI) (CA INDEX NAME)

CM 1

CRN 13676-54-5

CMF C21 H14 N2 O4



CM 2

CRN 108-95-2

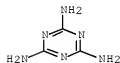
CMF C6 H6 O



CM 3

CRN 108-78-1

CMF C3 H6 N6



CM 4

CRN 106-89-8

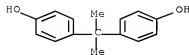
CMF C3 H5 Cl O



CM 5

CRN 80-05-7

CMF C15 H16 O2



CM 6

CRN 50-00-0

CMF C H2 O

H2C=O

L55 ANSWER 28 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1997:424702 HCAPLUS [Full-text](#)

DN 127:51601

TI Thermosetting phenolic resin compositions with good heat, moisture, and fire resistances, dielectric property, moldability, and less thermal expansion

IN Ikeda, Takashi; Miwa, Koji

PA Dainippon Ink and Chemicals, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09124897	A	19970513	JP 1995-287194	19951106 <--
PRAI	JP 1995-287194		19951106	<--	

AB Title compns. comprise (A) polymer compns. from mixts. or condensates of phenols, triazine ring-having compds., and aldehydes (the mixts. or condensates are substantially methylol-free and do not contain unreacted aldehydes) and (B) imide compds. having  $\geq 2$  ethylenic unsatd. groups in a mol., which are useful for molding, elec., and electronic materials. Thus, 100 parts phenolic resin composition (prepared from PhOH 94, melamine 19, and 41.5% formalin 43 parts; unreacted aldehyde content 0%; methylol group content 0%; unreacted PhOH content 0.7%) was melted at 200°, mixed with 100 parts 4,4'-diphenylmethanebismaleimide, poured into a mold, and cured at 180° for 2 h and at 200° for 2 h to give a board having glass transition temperature 185°, dielec. constant (1 MHz) 3.8, dielec. loss tangent (1 MHz) 0.01, good moisture and fire resistances, moldability, and less thermal expansion.

IC ICM C08L061-34

ICS C08G014-09; C08L079-08

CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 76

IT Phenolic resins, preparation  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(thermosetting phenolic resin compns. with good heat, moisture, and fire resistances, dielec. property, moldability, and less thermal expansion)

IT 190911-92-3P 190911-93-4P 190911-94-5P 190911-95-6P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(thermosetting phenolic resin compns. with good heat, moisture, and fire resistances, dielec. property, moldability, and less thermal expansion)

IT 190911-92-3P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(thermosetting phenolic resin compns. with good heat, moisture, and fire resistances, dielec. property, moldability, and less thermal expansion)

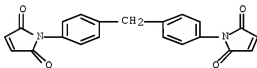
RN 190911-92-3 HCAPLUS

CN Formaldehyde, polymer with 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione], phenol and 1,3,5-triazine-2,4,6-triamine (9CI) (CA INDEX NAME)

CM 1

CRN 13676-54-5

CMF C21 H14 N2 O4



CM 2

CRN 108-95-2

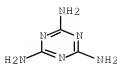
CMF C6 H6 O



CM 3

CRN 108-78-1

CMF C3 H6 N6



CM 4

CRN 50-00-0

CMF C H2 O

H<sub>2</sub>C=O

L55 ANSWER 29 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1997:361016 HCAPLUS [Full-text](#)

DN 127:18466

TI Thermosetting resin compositions and their use for electric laminates with good fire resistance and punching properties

IN Ikeda, Hisashi; Miwa, Koji

PA Dainippon Ink and Chemicals, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09087487	A	19970331	JP 1995-242951	19950921 <--
	JP 3458557	B2	20031020		
PRAI	JP 1995-242951		19950921	<--	

AB The comps. comprises (a) resol resins containing oligomeric condensed resins and drying oil-modified resol resins and (b) phenolic resins that are derived from phenols, triazines, and aldehydes and contain no unreacted aldehydes and methylol groups. Heating phenol 94, benzoguanamine 9.4, 41.5% formalin 51, and oxalic acid 0.47 part at 100° for 5 h and at 180° for 2 h gave a phenolic resin with softening point 103°. Preparing a 50% resol varnish from phenol 94, 41.5% formalin 87, and Me3N 1.9 part, mixing (10 parts) with 100 parts tung oil-modified resin from phenol 94, tung oil 60, paraformaldehyde 40, and Epilcon 153 12 part and 10 parts the phenolic resin, impregnating the resin mixture into kraft paper at resin pick-up 52-55%, stacking 8 pieces of the resulting prepregs, and hot pressing gave a 1.6-mm laminate with water absorption (24 h in water) 0.67%, dielec. resistance 5 x 1010Ω, and good punching properties.

IC ICM C08L061-26

ICS B32B027-04; B32B027-42; C08J005-24; C08L061-06

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 76

IT Phenolic resins, preparation

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP

(Properties); TEM (Technical or engineered material use); PREP

(Preparation); USES (Uses)

(aminoplast; thermosetting resin comps. for elec. laminates with good fire resistance and punching properties)

KATHLEEN FULLER EIC1700 571/272-2506

- IT Phenolic resins, preparation  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(epoxy; thermosetting resin compns. for elec. laminates with good fire resistance and punching properties)
- IT Phenolic resins, preparation  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(resol; thermosetting resin compns. for elec. laminates with good fire resistance and punching properties)
- IT 50-00-ODP, Formaldehyde, reaction products with tung oil and phenol and epoxy resin 108-95-2DP, Phenol, reaction products with tung oil and formaldehyde and epoxy resin 9003-35-4DP, resol 25917-04-8P 26354-09-6P 28472-14-2P 31531-41-6P 33294-14-3DP, reaction products with tung oil, formaldehyde, and phenol  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(thermosetting resin compns. for elec. laminates with good fire resistance and punching properties)
- IT 9003-35-4DP, resol  
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(thermosetting resin compns. for elec. laminates with good fire resistance and punching properties)
- RN 9003-35-4 HCAPLUS  
CN Phenol, polymer with formaldehyde (CA INDEX NAME)

CM 1

CRN 108-95-2

CMF C6 H6 O



CM 2

CRN 50-00-0

CMF C H2 O

H<sub>2</sub>C=O

L55 ANSWER 30 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

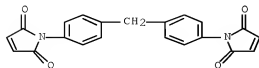
AN 1997:310604 HCAPLUS [Full-text](#)

DN 127:18033

TI Synthesis and characteristic of allyl novolak and its copolymer with bismaleimide

KATHLEEN FULLER EIC1700 571/272-2506

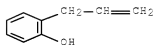
- AU Liang, Guo Zheng; Gu, Ai Juan  
CS Department Chemical Engineering, Northwestern Polytechnical University, Xi'an, 710072, Peop. Rep. China  
SO International Journal of Polymeric Materials (1997), 35(1-4), 39-49  
CODEN: IJPMCS; ISSN: 0091-4037  
PB Gordon & Breach  
DT Journal  
LA English  
AB The main target of the modification of bismaleimide (BMI) is the improvement of the resin's fracture toughness with no, or only minor, reduction in the glass transition temperature (Tg) and the hot/wet environmental stability. A new allyl compound modified BMI resin system was developed for this target. The allyl novolak, coded as AF, was synthesized and characterized. The properties of the modified BMI resin and its composites were studied in detail. Thermogravimetric anal. (TGA) in N atmospheric revealed that the modified BMI resin was stable  $\leq 484^\circ$ . The hot/wet properties of the cured copolymer were investigated by aging in boiling distilled water. After aging for 100 h, water absorption and heat deflection temperature (HDT) were 3.2% and  $277^\circ$ , resp.
- CC 35-4 (Chemistry of Synthetic High Polymers)  
IT Phenolic resins, preparation  
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(novolak; preparation and characterization of allyl novolak and its copolymer with bismaleimide)  
IT Phenolic resins, preparation  
Phenolic resins, preparation  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(polyimide-, bismaleimide-based, novolak; water absorption of allyl novolak copolymer with bismaleimide)  
IT 128774-93-6P, 2-Allylphenol-4,4'-bismaleimideophenylmethane-formaldehyde copolymer  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(preparation and characterization of allyl novolak and its copolymer with bismaleimide)  
IT 128774-93-6P, 2-Allylphenol-4,4'-bismaleimideophenylmethane-formaldehyde copolymer  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(preparation and characterization of allyl novolak and its copolymer with bismaleimide)  
RN 128774-93-6 HCAPLUS  
CN Formaldehyde, polymer with 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione] and 2-(2-propenyl)phenol (9CI) (CA INDEX NAME)  
CM 1  
CRN 13676-54-5  
CMF C21 H14 N2 O4



CM 2

CRN 1745-81-9

CMF C9 H10 O



CM 3

CRN 50-00-0

CMF C H2 O



L55 ANSWER 31 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1997:6240 HCAPLUS Full-text

DN 126:32610

TI Polymaleimide compositions with good heat resistance for printed circuit boards

IN Hagimura, Atsushi; Kitahara, Mikio; Shima, Kenji; Asahina, Kotaro

PA Mitsui Toatsu Chemicals, Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

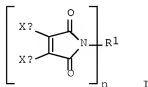
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08259668	A	19961008	JP 1995-65655	19950324 <--
PRAI	JP 1995-65655		19950324	<--	
GI					



AB Comps. with high heat resistance and hardness and good wire-bonding reliance, useful for ball grid array mounting, etc., comprise polymaleimides I (R1 = n-valent C2-27 aliphatic, alicyclic, monocyclic aromatic, condensed polycyclic



aromatic group, or group with multiple aromatic nuclei connected directly or via links to each other; Xa, Xb = H, halo, C1-4 hydrocarbyl; n  $\geq$  2) which are modified with (A) epoxy resins having  $\geq 2$  epoxy and  $\geq 1$  naphthalene group/mol., (B) phenolic resins having  $\geq 2$  OH and  $\geq 2$  naphthalene groups/mol., and (C) compds. with mol. weight  $\leq 300$  having an alc. OH or a phenolic OH and  $\geq 1$  epoxy group. Prepregs, thermosetting resin laminates, and printed circuit boards prepared from the compns. are also claimed. Thus, bis(4-maleimidophenyl)methane 100, glycidol 20, EOCN 7000 50, and NX (naphthol xylok resin) 30 parts reacted to give a varnish, with which glass cloth was impregnated. A Cu-clad laminate prepared from the prepregs thus obtained showed Barcol hardness 66 and malfunctions in a wire-bonding test 0/10,000.

IC ICM C08G059-40

ICS B32B015-08; C08G059-62; C08J005-24; H05K001-03

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 76

IT Phenolic resins, uses

RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)

(epoxy; epoxy resin-modified polymaleimides with good heat resistance for printed circuit boards)

IT 161554-29-6P

RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)

(epoxy resin-modified polymaleimides with good heat resistance for printed circuit boards)

IT 161554-29-6P

RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)

(epoxy resin-modified polymaleimides with good heat resistance for printed circuit boards)

RN 161554-29-6 HCAPLUS

CN Formaldehyde, polymer with eOCN 7000, 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione], methylphenol, naphthalenol and oxiranemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 151615-84-8

CMF Unspecified

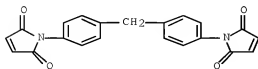
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 13676-54-5

CMF C21 H14 N2 O4



CM 3

CRN 1321-67-1  
CMF C10 H8 O  
CCI IDS



D1-OH

CM 4  
CRN 1319-77-3  
CMF C7 H8 O  
CCI IDS



D1-OH

D1-Me

CM 5  
CRN 556-52-5  
CMF C3 H6 O2



CM 6  
CRN 50-00-0  
CMF C H2 O

H2C=O

DN 126:32260  
 TI Flame-retardant epoxy resin compositions containing triazine  
 compound-modified phenolic resins and dicyandiamide as hardeners  
 IN Ikeda, Hisashi; Kunitomo, Hideo  
 PA Dainippon Ink & Chemicals, Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08253559	A	19961001	JP 1995-58832	19950317 <--
	JP 3327039	B2	20020924		
PRAI	JP 1995-58832		19950317	<--	
AB	Title comps. with good heat and moisture resistance, useful for glass/epoxy resin laminated boards, moldings, adhesives, coatings, etc., comprise (A) epoxy base resins and (B) curing agents containing phenol compound-triazine compound-aldehyde condensates which are free from residual aldehydes and methylol groups, and dicyandiamide (I). Thus, PhOH 94, benzoguanamine 9.4, and 41.5% HCHO 51 parts were reacted in the presence of oxalic acid at 100° for 5 h to give a phenolic resin, 20 parts of which was mixed with Epilcon 1121 (epoxy resin) 100, I 1.0, and 2-ethyl-4-methylimidazole 0.2 part, diluted with solvent, impregnated into glass cloths, and dried at 160° for 3 min to give prepregs, which were laminated, sandwiched between Cu foils, and hot-pressed to give a laminate showing interlayer peeling strength 2.2 kg/cm and water absorption 0.35% after 2 h in a pressure cooker.				
IC	ICM C08G059-62				
	ICS C08G059-46				
ICA	C08G014-09				
CC	37-6 (Plastics Manufacture and Processing) Section cross-reference(s): 38				
IT	Phenolic resins, uses RL: MOA (Modifier or additive use); USES (Uses) (triazine-modified; flame-retardant epoxy resin comps. containing triazine compound-modified phenolic resins and dicyandiamide as hardeners)				
IT	184224-23-5P	184224-25-7P	184224-27-9P	184224-29-1P	
	184224-30-4P				
	RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (flame-retardant epoxy resin comps. containing triazine compound-modified phenolic resins and dicyandiamide as hardeners)				
IT	25917-04-8P	Formaldehyde-melamine-phenol copolymer			28472-14-2P
	31531-41-6P	Cyanuric acid-formaldehyde-phenol copolymer			
	184223-53-8P				
	RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses) (hardeners; flame-retardant epoxy resin comps. containing triazine compound-modified phenolic resins and dicyandiamide as hardeners)				
IT	184224-27-9P				
	RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (flame-retardant epoxy resin comps. containing triazine compound-modified phenolic resins and dicyandiamide as hardeners)				
RN	184224-27-9	HCAPLUS			
CN	Guanidine, cyano-, polymer with Epilcon 1121, formaldehyde, phenol and 1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)				

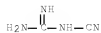
CM 1

CRN 156014-56-1  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 461-58-5  
CMF C2 H4 N4



CM 3

CRN 108-95-2  
CMF C6 H6 O



CM 4

CRN 108-80-5  
CMF C3 H3 N3 O3



CM 5

CRN 50-00-0  
CMF C H2 O



DN 126:32259

TI Epoxy resin compositions having triazine-containing phenolic resin as hardeners and halogenated bisphenol A

IN Ikeda, Hisashi; Kunitomo, Hideo

PA Dainippon Ink &amp; Chemicals, Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAP

DT Patent

LA Japanese

FAN.CNT 1

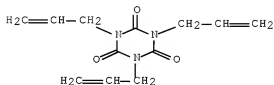
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08253558	A	19961001	JP 1995-57265	19950316 <--
PRAI	JP 1995-57265		19950316	<--	
AB	The flame-retardant title compns. useful for glass/epoxy resin laminated boards, moldings, adhesives, coatings, etc., consist of epoxy resins, condensates of phenols, triazine and aldehydes as hardeners which are free from residual aldehydes and methylol groups, and halogenated bisphenol A as fireproofing agents. Thus, PhOH 94, benzoguanamine 9.4, and 41.5% HCHO 51 parts were reacted in the presence of oxalic acid at 100° for 5 h to give a phenolic resin, 50 parts of which was mixed with Epilcon 850 (bisphenol A epoxy resin) 100, tetrabromo[2,2-bis(4-hydroxyphenyl)]propane 33, and 2-ethyl-4-methylimidazole 0.2 part, diluted with solvent, impregnated into glass cloths, and dried at 160° for 3 min to give prepregs, which were laminated, sandwiched between Cu foils, and hot-pressed to give a laminate showing UL-94 flammability rating V-0 and water absorption 0.28% after 2 h in a pressure cooker test.				
IC	ICM C08G059-62				
CC	ICS C08G059-62; C08G059-40				
	37-6 (Plastics Manufacture and Processing)				
	Section cross-reference(s): 38				
IT	Phenolic resins, uses				
	RL: MOA (Modifier or additive use); USES (Uses)				
	(triazine-modified; flame-retardant epoxy resin compns. containing triazine compound-modified phenolic resins as hardeners)				
IT	184223-49-2P		184223-50-5P	184223-52-7P	184223-54-9P
	RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(flame-retardant epoxy resin compns. containing triazine compound-modified phenolic resins as hardeners)				
IT	184223-51-6P				
	RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(flame-retardant epoxy resin compns. containing triazine compound-modified phenolic resins as hardeners)				
IT	25917-04-8P, Formaldehyde-melamine-phenol copolymer		28472-14-2P		
	31531-41-6F, Cyanuric acid-formaldehyde-phenol copolymer				
	184223-53-8P				
	RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)				
	(hardeners; flame-retardant epoxy resin compns. containing triazine compound-modified phenolic resins as hardeners)				
IT	184223-52-7P				
	RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(flame-retardant epoxy resin compns. containing triazine compound-modified phenolic resins as hardeners)				
RN	184223-52-7		HCAPLUS		
CN	Formaldehyde, polymer with (chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 1,3,5-tri-2-propenyl-1,3,5-triazine-				

2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)

CM 1

CRN 1025-15-6

CMF C12 H15 N3 O3



CM 2

CRN 106-89-8

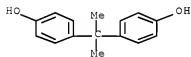
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CM 4

CRN 50-00-0

CMF C H2 O



TI Epoxy resin compositions containing phenolic resins bearing triazine groups as hardeners and phosphorus compound fireproofing agents  
 IN Ikeda, Hisashi; Kunitomo, Hideo  
 PA Dainippon Ink & Chemicals, Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent  
 LA Japanese

FAN,CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08253557	A	19961001	JP 1995-57264	19950316 <--
	JP 3327038	B2	20020924		

PRAI JP 1995-57264 19950316 <--

AB Title compns. with good balance of heat and moisture resistance and flame retardance, useful for glass/epoxy resin laminated boards, moldings, adhesives, coatings, etc., comprise epoxy resins, P compds., and condensates of phenols, triazine compds. and aldehydes as hardeners which contain no residual aldehydes methylol groups. Thus, PhOH 94, benzoguanamine 9.4, and 41.5% HCHO 51 parts were reacted in the presence of oxalic acid at 100° for 5 h to give a phenolic resin, 50 parts of which was mixed with Epiclon 850 (bisphenol A epoxy resin) 100, (PhO)3PO 10, and 2-ethyl-4-methylimidazole 0.2 part, diluted by solvent, impregnated into glass cloths, and dried at 160° for 3 min to give prepreps, which were laminated, sandwiched with Cu foils, and hot-pressed to give a laminate showing UL-94 flammability rating V-1 and water absorbance 0.40% after 2-h pressure cooker test.

IC ICM C08G059-62

ICS C08K005-49; C08L063-00

ICA C08G014-09

CC 37-6 (Plastics Manufacture and Processing)

IT Phenolic resins, uses

RL: MOA (Modifier or additive use); USES (Uses)  
 (triazine-modified; flame-retardant epoxy resin compns. containing triazine-modified phenolic resins as crosslinkers)

IT 184223-49-2P 184223-50-5P 184223-51-6P 184223-52-7P

184223-54-9P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (flame-retardant epoxy resin compns. containing triazine-modified phenolic resins as crosslinkers)

IT 25917-04-8P, Formaldehyde-melamine-phenol copolymer 28472-14-2P

31531-41-6P, Cyanuric acid-formaldehyde-phenol copolymer

184223-53-8P

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)  
 (hardeners; flame-retardant epoxy resin compns. containing triazine-modified phenolic resins as crosslinkers)

IT 184223-51-6P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (flame-retardant epoxy resin compns. containing triazine-modified phenolic resins as crosslinkers)

RN 184223-51-6 HCAPLUS

CN Formaldehyde, polymer with (chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol], phenol and 1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)

CM 1

CRN 108-95-2

CMF C6 H6 O



CM 2

CRN 108-80-5

CMF C3 H3 N3 O3



CM 3

CRN 106-89-8

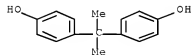
CMF C3 H5 Cl O



CM 4

CRN 80-05-7

CMF C15 H16 O2



CM 5

CRN 50-00-0

CMF C H2 O



H<sub>2</sub>C=O

L55 ANSWER 35 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1996:540602 HCAPLUS Full-text

DN 125:169733

TI Heat-resistant resin compositions containing bismaleimide-based polyimides and resols

IN Takyama, Eiichiro; Hasegawa, Atsushi; Nakajima, Hiroshi; Suga, Junichi

PA Showa Highpolymer, Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08143669	A	19960604	JP 1994-289921	19941124 <--
PRAI	JP 1994-289921		19941124	<--	

AB The title compns. with good curability and heat and impact resistance, useful for moldings, laminates, etc., comprise (A) 10-90 parts polyimides with phenolic OH in the mol. prepared by treating (a) sulfanilamide (I), (b) bismaleimides, and (c) aminophenols containing amino groups and phenolic OH and (B) 10-90 part resols prepared by treating phenols and aldehydes in the presence of catalysts. Thus, 322 g N,N'-diphenylmethanebismaleimide was fed to a molten mixture of 155 g I and 22 g p-aminophenol containing 0.5 g phenothiazine and allowed to react at 170° to give a phenolic OH-terminated polyimide brown cake with m.p. 140-150°, 100 parts of which was blended with Shonol BRN 2120 (a resol prepared from PhOH and HCHO in the presence of an alkali metal catalyst) 100, Zn stearate 6, and a milled fiber 300 parts, molded at 160-170°, and post-cured at 150° to give test pieces.

IC ICM C08G073-10

ICS C08G008-28; C08L061-06; C08L061-14; C08L079-00

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38

IT Phenolic resins, properties

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (resol, heat-resistant bismaleimide-based polyimide resin compns. containing resols for moldings)

IT 180698-64-0

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (heat-resistant bismaleimide-based polyimide resin compns. containing resols for moldings)

IT 180698-64-0

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
 (heat-resistant bismaleimide-based polyimide resin compns. containing resols for moldings)

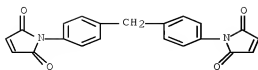
RN 180698-64-0 HCAPLUS

CN Benzenesulfonamide, 4-amino-, polymer with 4-aminophenol, formaldehyde, 1,1'-(methylened-4,1-phenylene)bis[1H-pyrrole-2,5-dione] and phenol (9CI)  
 (CA INDEX NAME)

CM 1

CRN 13676-54-5

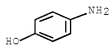
CMF C21 H14 N2 O4



CM 2

CRN 123-30-8

CMF C6 H7 N O



CM 3

CRN 108-95-2

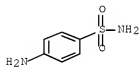
CMF C6 H6 O



CM 4

CRN 63-74-1

CMF C6 H8 N2 O2 S



CM 5

CRN 50-00-0

CMF C H2 O



L55 ANSWER 36 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1996:533984 HCAPLUS Full-text

DN 125:169734

TI Heat-resistant resin compositions containing bismaleimide-based polyimides, dihydroxynaphthalenes, and resols

IN Takyama, Eiichiro; Nakajima, Hiroshi

PA Showa Highpolymer, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08143670	A	19960604	JP 1994-289922	19941124 <--
PRAI	JP 1994-289922		19941124	<--	

AB The title comps. with curability and heat and impact resistance, useful for moldings, laminates, etc., comprise (A) polyimides with phenolic OH in the mol. prepared by treating (a) sulfanylamide (I), (b) bismaleimides, and (c) aminophenols containing amino groups and phenolic OH, (B) dihydroxynaphthalenes, and (C) resols prepared by treating phenols and aldehydes in the presence of catalysts. Thus, I 155, p-aminophenol 22, and N,N'-diphenylmethanebismaleimide 358 g were allowed to react at 170-180° in the presence of phenothiazine to give a phenolic OH-terminated polyimide brown cake with m.p. 140-150°, 100 parts of which was blended with Shonol BLS 455N (a resol, methylol-treated bisphenol F, EtOAc solution) 60, 1,6-dihydroxynaphthalene 40, Zn stearate 6, and a milled fiber 300 parts, molded at 170-175°, and post-cured at 180° to give test pieces.

IC ICM C08G073-10

ICS C08G008-28; C08L061-06; C08L061-14; C08L079-00

CC 37-6 (Plastics Manufacture and Processing)

IT Phenolic resins, preparation

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation) (resol, -bismaleimide-based polyimides; heat- and impact-resistant resin comps. containing bismaleimide-based polyimides, dihydroxynaphthalenes, and resols)

IT 180466-25-5P

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation) (heat- and impact-resistant resin comps. containing bismaleimide-based polyimides, dihydroxynaphthalenes, and resols)

IT 180466-25-5P

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation) (heat- and impact-resistant resin comps. containing bismaleimide-based polyimides, dihydroxynaphthalenes, and resols)

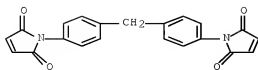
RN 180466-25-5 HCAPLUS

CN Benzenesulfonamide, 4-amino-, polymer with 4-aminophenol, formaldehyde, 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione], 1,7-naphthalenediol and phenol (9CI) (CA INDEX NAME)

CM 1

CRN 13676-54-5

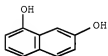
CMF C21 H14 N2 O4



CM 2

CRN 575-38-2

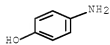
CMF C10 H8 O2



CM 3

CRN 123-30-8

CMF C6 H7 N O



CM 4

CRN 108-95-2

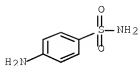
CMF C6 H6 O



CM 5

CRN 63-74-1

CMF C6 H8 N2 O2 S



CM 6

CRN 50-00-0

CMF C H2 O

H2C=O

L55 ANSWER 37 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1996:513122 HCAPLUS [Full-text](#)

DN 125:144278

TI Curable heat-resistant polyimide compositions with good moldability

IN Takyama, Eiichiro; Nakajima, Hiroshi

PA Showa Highpolymer, Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08134351	A	19960528	JP 1994-269867	19941102 <--
PRAI	JP 1994-269867		19941102	<--	

AB The comps. comprise (A) phenolic OH-containing polyimides prepared by polymerization of aromatic diamines with bismaleimides and aminophenols, (B) resol phenolic resins, and (C) novolak phenolic resins and are useful for moldings, laminates, abrasives, and brakes (no data). Diaminodiphenyl sulfone 149, p-aminophenol 11, phenothiazine 0.5, and N,N'-diphenylmethanebismaleimide 358 g were heated 60 min at 170-175° to give a polyimide, 100 parts of which were kneaded with Shonol BLS 455N (bisphenol F tetramethylol derivative-based resol) 60, Shonol BRG 558 (novolak) 40, milled fibers 400, and Zn stearate 6 parts, crushed, hot pressed, and cured 12 h at 150° and 6 h at 180° to give test pieces showing bending strength 16.9 kg/mm<sup>2</sup>, bending modulus 1690 kg/mm<sup>2</sup>, heat distortion temperature ≥231°, Charpy impact strength 11.4 kg-cm/cm<sup>2</sup>, Barcol hardness 94, 10% weight-loss temperature 398°, and weight retention at 500° 71%.

IC ICM C08L079-08

ICS C08L061-06

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38

IT Phenolic resins, uses

RL: MOA (Modifier or additive use); USES (Uses)

(novolak, crosslinking agent; for bismaleimide-based polyimides for good heat resistance)

IT Phenolic resins, preparation

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

KATHLEEN FULLER EIC1700 571/272-2506

(polyimide-, bismaleimide-based, polyamine-polysulfone-; curable heat-resistant compns. with good moldability)

IT Phenolic resins, uses

RL: MOA (Modifier or additive use); USES (Uses)  
(resol, crosslinking agent; for bismaleimide-based polyimides for good heat resistance)

IT 180163-55-7P 180308-75-2P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(curable heat-resistant compns. with good moldability)

IT 180163-55-7P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(curable heat-resistant compns. with good moldability)

RN 180163-55-7 HCAPLUS

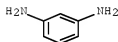
CN Formaldehyde, polymer with 4-aminophenol, 2(or 4)-methyl-1,3-benzenediamine, 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione] and phenol (9CI) (CA INDEX NAME)

CM 1

CRN 122920-95-0

CMF C7 H10 N2

CCI IDS

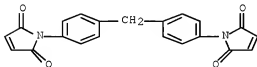


D1-Me

CM 2

CRN 13676-54-5

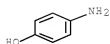
CMF C21 H14 N2 O4



CM 3

CRN 123-30-8

CMF C6 H7 N O



CM 4

CRN 108-95-2

CMF C6 H6 O



CM 5

CRN 50-00-0

CMF C H2 O

H2C=O

L55 ANSWER 38 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1996:508762 HCAPLUS Full-text

DN 125:144277

TI Heat-resistant polymer compositions

IN Takyama, Eiichiro; Nakajima, Hiroshi

PA Showa Highpolymer, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

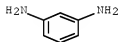
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08134349	A	19960528	JP 1994-269865	19941102 <--
PRAI	JP 1994-269865		19941102 <--		

AB Comps. useful for laminates, abrasives, brakes, etc. comprise (A) phenolic OH-containing polyimides obtained by the reaction of aromatic diamines, bismaleimides, and aminophenols, (B) resol phenolic resins, and (C) dihydroxynaphthalene. Thus, diaminodiphenyl sulfone 149, p-aminophenol 11, phenothiazine 0.5, and N,N'-diphenylmethanebismaleimide 358 g were heated to give a polyimide, 100 parts of which was kneaded with Shonol BLS 455N (bisphenol F tetramethylol derivative) 60, 1,5-dihydroxynaphthalene 40, milled fiber 400, and Zn stearate 6 parts, crushed, hot-pressed, and post-cured to give a test piece showing bending strength 18.9 kg/mm<sup>2</sup>, flexural modulus 1740 kg/mm<sup>2</sup>, heat distortion temperature ≥250°, Charpy impact strength 9.1 kg-cm/cm<sup>2</sup>, Barcol hardness 76, 10% weight-loss temperature 413°, and weight retention at 500° 76%.

IC ICM C08L079-08

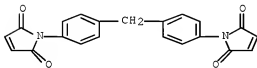
KATHLEEN FULLER EIC1700 571/272-2506

ICS C08K005-13; C08L061-06  
CC 37-6 (Plastics Manufacture and Processing)  
IT Phenolic resins, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(resol, crosslinkable bismaleimide-based polyimide-resol-  
dihydroxynaphthalene compns. with good heat resistance)  
IT 180094-41-1P 180211-95-4P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or  
engineered material use); PREP (Preparation); USES (Uses)  
(crosslinkable bismaleimide-based polyimide-resol-dihydroxynaphthalene  
compns. with good heat resistance)  
IT 180094-41-1P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or  
engineered material use); PREP (Preparation); USES (Uses)  
(crosslinkable bismaleimide-based polyimide-resol-dihydroxynaphthalene  
compns. with good heat resistance)  
RN 180094-41-1 HCAPLUS  
CN Formaldehyde, polymer with 4-aminophenol, ar-methyl-1,3-benzenediamine,  
1,1'-(methylene-di-4,1-phenylene)bis[1H-pyrrole-2,5-dione],  
1,5-naphthalenediol and phenol (9CI) (CA INDEX NAME)  
CM 1  
CRN 26764-44-3  
CMF C7 H10 N2  
CCI IDS



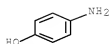
D1-Me

CM 2  
CRN 13676-54-5  
CMF C21 H14 N2 O4



CM 3  
CRN 123-30-8  
CMF C6 H7 N O





CM 4

CRN 108-95-2

CMF C6 H6 O



CM 5

CRN 83-56-7

CMF C10 H8 O2



CM 6

CRN 50-00-0

CMF C H2 O



L55 ANSWER 39 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 1996:500863 HCAPLUS Full-text  
DN 125:169727  
TI Curable heat-resistant polyimide compositions with good moldability  
IN Takayama, Eiichiro; Nakajima, Hiroshi  
PA Showa Highpolymer, Japan  
SO Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

PI JP 08134350 A 19960528 JP 1994-269866 19941102 <--  
PRAI JP 1994-269866 19941102 <--  
AB The compns. comprise (A) phenolic OH-containing polyimides prepared by polymerization of aromatic diamines with bismaleimides and aminophenols, (B) resol phenolic resins, and (C) polyphenols and are useful for moldings, laminates, brakes, and abrasives (no data). Diaminodiphenyl sulfone 149, p-aminophenol 11, phenothiazine 0.5, and N,N'-diphenylmethanebismaleimide 358 g were heated 60 min at 170-175° to give a polyimide, 100 parts of which were kneaded with Shonol BLS 455N (bisphenol F tetramethylol derivative-based resol) 60, bisphenol F 40, milled fibers 400, and Zn stearate 6 parts, crushed, hot pressed, and cured to give test pieces showing bending strength 15.9 kg/mm<sup>2</sup>, bending modulus 1810 kg/mm<sup>2</sup>, heat distortion temperature 2250°, Charpy impact strength 8.2 kg-cm/cm<sup>2</sup>, Barcol hardness 77, 10% weight-loss temperature 409°, and weight retention at 500° 73%.

IC ICM C08L079-08  
ICS C08K005-13; C08L061-06

CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38

IT Phenolic resins, preparation  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(polyimide-, bismaleimide-based, curable heat-resistant polyimide compns. with good moldability)

IT Phenolic resins, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(resol, crosslinking agents; for bismaleimide-based polyamine-polyimide-polysulfone compns. for good heat resistance)

IT 179954-84-8P 180604-78-8P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(curable heat-resistant polyimide compns. with good moldability)

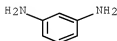
IT 179954-84-8P  
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(curable heat-resistant polyimide compns. with good moldability)

RN 179954-84-8 HCAPLUS

CN Formaldehyde, polymer with 4-aminophenol, 2(or 4)-methyl-1,3-benzenediamine, 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione], phenol and 4,4'-sulfonylbis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 122920-95-0  
CMF C7 H10 N2  
CCI IDS

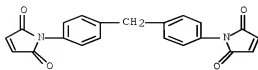


D1-Me

CM 2

CRN 13676-54-5

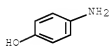
CMF C21 H14 N2 O4



CM 3

CRN 123-30-8

CMF C6 H7 N O



CM 4

CRN 108-95-2

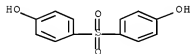
CMF C6 H6 O



CM 5

CRN 80-09-1

CMF C12 H10 O4 S



CM 6

CRN 50-00-0

CMF C H2 O

H<sub>2</sub>C=O

L55 ANSWER 40 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1996:500817 HCAPLUS Full-text

DN 125:144255

TI Curable resin compositions and their prepregs, compounds, and cured products

IN Mori, Kunio; Inoe, Tadayuki; Miwa, Koji

PA Dainippon Ink &amp; Chemicals, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 08127706	A	19960521	JP 1994-266839	19941031 <--
	JP 3608005	B2	20050105		
PRAI	JP 1994-266839		19941031 <--		

AB The title comps. with good handling contain novolak-type aromatic hydrocarbon-HCHO resins,  $\geq 2$  ethylenic double bond-containing comps., and comps. having  $\geq 1$  maleimide structure. Thus, a solution containing a novolak resin (prepared from 10:7.5 PhOH and paraformaldehyde) 100, divinylbenzene 75, PhCH<sub>2</sub>Cl 30, SiO<sub>2</sub> 60, and CS 03MAPK1 10 parts were kneaded to prepare a compound showing good processibility in compression molding.

IC ICM C08L061-10

ICS C08L035-06; C08L045-00

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38

IT Phenolic resins, properties

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
(novolak, curable resin comps. and their prepregs, comps., and cured products)

IT 179954-28-0 179954-29-1

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
(curable resin comps. and their prepregs, comps., and cured products)

IT 179954-28-0

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)  
(curable resin comps. and their prepregs, comps., and cured products)

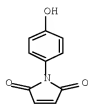
RN 179954-28-0 HCAPLUS

CN Formaldehyde, polymer with diethenylbenzene, 1-(4-hydroxyphenyl)-1H-pyrrole-2,5-dione and phenol (9CI) (CA INDEX NAME)

CM 1

CRN 7300-91-6

CMF C10 H7 N O3

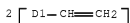


CM 2

CRN 1321-74-0

CMF C10 H10

CCI IDS



CM 3

CRN 108-95-2

CMF C6 H6 O



CM 4

CRN 50-00-0

CMF C H2 O



L55 ANSWER 41 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1995:235313 HCAPLUS [Full-text](#)

DN 122:216033

TI Thermosetting polymaleimide-epoxy resin-phenolic resin compositions for prepregs and laminates

IN Tanaka, Junsuke; Kitahara, Mikio; Kubo, Takayuki; Torikai, Motoyuki; Asahina, Kotaro

KATHLEEN FULLER EIC1700 571/272-2506

PA Mitsui Toatsu Chemicals, Japan  
SO Jpn. Kokai Tokkyo Koho, 9 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06263843	A	19940920	JP 1993-51773	19930312 <--
	JP 3372982	B2	20030204		
PRAI	JP 1993-51773		19930312 <--		

AB The title compns., useful for the manufacture of circuit boards, contain compds. containing  $\geq 2$  maleimido groups, epoxy resins containing  $\geq 1$  naphthalene ring, phenolic resins containing  $\geq 2$  OH and  $\geq 1$  naphthalene ring, and compds. having mol. weight  $\leq 300$  and containing OH and epoxy groups. A mixture of bis(4-maleimidophenyl)methane 100, Epilol OH 20, EOCN 7000 50, and OCN 7000 30 parts was heated 30 min at  $130^\circ$  min to give an MEK-soluble resin which was mixed with 0.4% 2E4MZ in MEK. The mixture was used to impregnate a glass cloth and heated 5 min at  $140^\circ$  to give a prepreg., 5 layers of which were placed between Cu foils and pressed 60 min at  $170^\circ$  to give a heat- and water-resistant laminate.

IC ICM C08G059-40  
ICS B32B015-08; C08G059-24; C08G059-62; C08J005-24; C08L063-00

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 76

IT Epoxy resins, uses

Phenolic resins, uses

Polyimides, uses

RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(for heat- and water-resistant laminated circuit boards)

IT 161554-29-6P 161554-30-9P 161554-31-9P 161554-32-1P

162055-38-1P

RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(for heat- and water-resistant laminated circuit boards)

IT 161554-29-6P

RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(for heat- and water-resistant laminated circuit boards)

RN 161554-29-6 HCAPLUS

CN Formaldehyde, polymer with eOCN 7000, 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione], methylphenol, naphthalenol and oxiranemethanol (9CI) (CA INDEX NAME)

CM 1

CRN 151615-84-8

CMF Unspecified

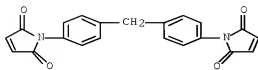
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 13676-54-5

CMF C21 H14 N2 O4



CM 3

CRN 1321-67-1

CMF C10 H8 O

CCI IDS



D1-OH

CM 4

CRN 1319-77-3

CMF C7 H8 O

CCI IDS



D1-OH

D1-Me

CM 5

CRN 556-52-5

CMF C3 H6 O2



CM 6

CRN 50-00-0

CMF C H2 O

H2C=O

L55 ANSWER 42 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1994:702625 HCAPLUS Full-text

DN 121:302625

TI Thermosetting polyimide resin compositions and thermosets and manufacture thereof

IN Yamamoto, Hiroshi; Fukui, Taro; Kimura, Toshuki; Ogasawara, Kenji

PA Matsushita Electric Works Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 29 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06157905	A	19940607	JP 1992-338057	19921124 <--
PRAI	JP 1992-338057		19921124 <--		
AB	Polyfunctional unsatd. imides are mixed compatibly with thermoplastic polyimides, cured, and the 2 phases sep. to form continuous regularly entangled structures. Thus, 4,4'-diamino-3,3'-diethyl-5,5'-dimethyldiphenylmethane bismaleimide-4,4'-diaminodicyclohexylmethane copolymer was prepared, mixed (30 parts) with 100 parts BMI-S, 27.7 parts 4,4'-diaminodiphenylmethane, and CH2Cl2, cast on glass to form a film, and cured at 150° to give a film having a light scattering maximum				
IC	ICM C08L079-08				
	ICS C08F220-40; C08F283-04				
CC	38-3 (Plastics Fabrication and Uses)				
IT	9003-35-4DP, Formaldehyde-phenol copolymer, allyl ethers, polymers with thermoplastic and unsatd. polyimides 25053-96-7DP, o-Cresol-formaldehyde copolymer, allyl ethers, polymers with thermoplastic and unsatd. polyimides 153099-36-6DP, polymers with polyallyl compds. and unsatd. polyimides 158897-02-0P 158897-03-1P 158897-04-2P 158897-05-3P 158897-06-4P 158897-07-5P 158897-09-7P 158897-10-0P 158897-11-1P 158897-12-2P 158897-13-3P 158897-14-4P 158897-15-5P 158897-16-6P 158897-17-7P 158897-18-8P 159440-75-2P				
	RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (light-scattering polyimide films)				
IT	9003-35-4DP, Formaldehyde-phenol copolymer, allyl ethers, polymers with thermoplastic and unsatd. polyimides				
	RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (light-scattering polyimide films)				
RN	9003-35-4 HCAPLUS				
CN	Phenol, polymer with formaldehyde (CA INDEX NAME)				

CM 1

CRN 108-95-2



CMF C6 H6 O



CM 2

CRN 50-00-0

CMF C H2 O

H2C=O

L55 ANSWER 43 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1994:581158 HCAPLUS [Full-text](#)

DN 121:181158

TI Thermosetting resin compositions and electronic parts potted with the same and copper-clad laminates using the same

IN Shiomi, Hiroshi; Akiba, Masatsugu; Hirano, Yasuhiro; Takebe, Kazuo; Kitayama, Shinichiro; Shibata, Mitsuhiro; Kanekawa, Shuichi

PA Sumitomo Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

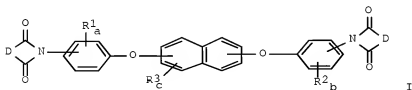
DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06093051	A	19940405	JP 1992-244538	19920914 <--
PRAI	JP 1992-244538		19920914	<--	

GI



AB The title comps. providing heat- and moisture-resistant cured products with good adhesive properties contain imides I (R1, R2, R3 = halogen, Cl-6 hydrocarbyl; a, b = 0-4; c = 0-6; D = C2-24 ethylenically unsatd. divalent organic group) and curing accelerators and optionally epoxy resins. A composition comprised 2,7-bis(4-maleimidophenoxy)naphthalene 50, Sumiepoxy ESCN-195XL 32.5, Tamaol 759 17.5, Ph3P 0.4, triethylamine tetraphenylborate

1.2, crushed fused silica 63.3, spherical fused silica 253.3, carnauba wax 0.7, SH 8040 1.0, and KBM 573 1.0 part.

IC ICM C08F222-40  
ICS B32B015-08; C08G059-18; C08G059-40; C08J005-24; C09D163-00; H01L023-29; H01L023-31

CC 37-6 (Plastics Manufacture and Processing)

IT Phenolic resins, uses  
RL: USES (Uses)  
(epoxy, thermosetting compns., containing maleimides, heat- and moisture-resistant, for potting and copper-clad laminates)

IT 157783-68-1 157783-69-2 157783-70-5  
157783-71-6 157783-72-7 157868-66-1 157868-67-2  
157868-68-3  
RL: USES (Uses)  
(thermosetting, with good heat and moisture resistance and adhesive properties, for potting and copper-clad laminates)

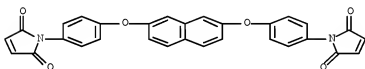
IT 157783-68-1  
RL: USES (Uses)  
(thermosetting, with good heat and moisture resistance and adhesive properties, for potting and copper-clad laminates)

RN 157783-68-1 HCAPLUS

CN Benzaldehyde, hydroxy-, polymer with 1,1'-(2,7-naphthalenediylbis(oxy-4,1-phenylene))bis[1H-pyrrole-2,5-dione], phenol and Tamanol 759 (9CI) (CA INDEX NAME)

CM 1

CRN 156940-08-8  
CMF C30 H18 N2 O6



CM 2

CRN 124861-52-5  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 3

CRN 28777-87-9  
CMF C7 H6 O2  
CCI IDS



D1—OH

D1—CHO

CM 4

CRN 108-95-2

CMF C6 H6 O



L55 ANSWER 44 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1994:581135 HCAPLUS [Full-text](#)

DN 121:181135

TI Novel curable compositions of furyl allyl novolaks and bismaleimides

IN Zahir, Sheik Abdul Cader; Brunner, Rudolf

PA Ciba-Geigy A.-G., Switz.

SO Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 585205	A2	19940302	EP 1993-810580	19930817 <--
	EP 585205	A3	19940817		
	R: BE, DE, ES, FR, GB, IT, NL, SE				
	CA 2104726	A1	19940227	CA 1993-2104726	19930824 <--
	JP 06220299	A	19940809	JP 1993-235714	19930826 <--
PRAI	CH 1992-2649	A	19920826	<--	

OS MARPAT 121:181135

AB The title comps. contain  $\geq 1$  bismaleimide and  $\geq 1$  furyl allyl novolak of specified structure and are useful for the manufacture of glass-reinforced laminates and composites. A typical title composition was cured by melting 100 g di(2-ethyl-6-methylphenyl)methanebismaleimide and 105 g of a furyl allyl novolak (preparation from o-allylphenol and furfural given), then keeping the mixture for 75 min at 140°, pouring the resulting homogeneous melt ( $\eta_{120} = 1809$  mPa-s) into a mold, and heating the 4-mm-thick molding for 3 h at 180° and 5 h at 250°. The specimens prepared from the cured composition had Tg 325°, dielec. constant 2.99 and 2.92 (3 kHz and 3 MHz, resp.), E modulus 2885 N/mm<sup>2</sup>, flexural strength 107.2 N/mm<sup>2</sup>, H<sub>2</sub>O absorption (72 h at 85° and 85% relative humidity) 2.71%, and UL 94 rating V-0.

IC ICM C08L061-04

ICS C08L079-08; H01B003-30

ICI C08L061-04, C08L079-08; C08L079-08, C08L061-04

CC 37-6 (Plastics Manufacture and Processing)

KATHLEEN FULLER EIC1700 571/272-2506

IT Phenolic resins, uses  
RL: POF (Polymer in formulation); USES (Uses)  
(furan group-containing, curable compns. of furyl allyl novolaks and bismaleimides)

IT Phenolic resins, uses  
RL: POF (Polymer in formulation); USES (Uses)  
(novolak, allyl ethers, reaction products, curable compns. of furyl allyl novolaks and bismaleimides)

IT 157886-36-7 157886-37-8  
RL: POF (Polymer in formulation); USES (Uses)  
(curable compns. of furyl allyl novolaks and bismaleimides)

IT 157886-37-8  
RL: POF (Polymer in formulation); USES (Uses)  
(curable compns. of furyl allyl novolaks and bismaleimides)

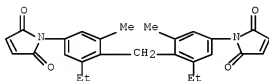
RN 157886-37-8 HCAPLUS

CN 2-Furancarboxaldehyde, polymer with 1,1'-[methylenebis(3-ethyl-5-methyl-4,1-phenylene)]bis[1H-pyrrole-2,5-dione] and 2-(2-propenyl)phenol (9CI)  
(CA INDEX NAME)

CM 1

CRN 132660-49-2

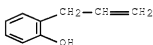
CMF C27 H26 N2 O4



CM 2

CRN 1745-81-9

CMF C9 H10 O



CM 3

CRN 98-01-1

CMF C5 H4 O2



L55 ANSWER 45 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 1994:535498 HCAPLUS Full-text  
DN 121:135498  
TI Properties of epoxy resin cured by novolac modified with  
N-p-hydroxyphenylmaleimide-n-butylacrylate copolymer. II  
AU Matsumoto, Akihiro; Hasegawa, Kiichi; Fukuda, Akinori  
CS Osaka Munic. Tech. Res. Inst., Osaka, 536, Japan  
SO Kagaku to Kogyo (Osaka, Japan) (1994), 68(7), 347-54  
CODEN: KKGOG; ISSN: 0368-5918  
DT Journal  
LA Japanese  
AB A phenol novolac/N-p-hydroxyphenylmaleimide-Bu acrylate copolymer (I) blend  
was used as an epoxy resin hardener and 2-ethyl-4-methylimidazole (EMI) was  
used as a curing accelerator. Curing behavior of this system was investigated  
by measurement of gelation time (JIS K 6910) and by DSC. The accelerator  
increased the curing rate of this system. If monomer ratio of I is 1:1.1 in  
the hardener, heat resistance and toughness were improved with increasing I  
content. If monomer ratio of I (Ib) is 1:3.8 in the hardener, the heat  
resistance of epoxy resins cured with the hardener system was improved with  
increasing I amount at ≤50 weight% in the hardener. Toughness of epoxy resin  
cured with the hardener system was about 1.2 times of that of epoxy resins  
cured with an unmodified novolac as the hardener when the amount of Ib in the  
hardener was 50 weight%. These findings were discussed.  
CC 37-6 (Plastics Manufacture and Processing)  
IT Section cross-reference(s): 35, 36  
IT 9003-35-4, Formalin-phenol copolymer  
RL: USES (Uses)  
(curing agents, modified by hydroxyphenylmaleimide-Bu acrylate  
copolymer, epoxy resins cured with, heat resistance and toughness of)  
IT 157373-90-5P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and heat resistance and toughness of)  
IT 9003-35-4, Formalin-phenol copolymer  
RL: USES (Uses)  
(curing agents, modified by hydroxyphenylmaleimide-Bu acrylate  
copolymer, epoxy resins cured with, heat resistance and toughness of)  
RN 9003-35-4 HCAPLUS  
CN Phenol, polymer with formaldehyde (CA INDEX NAME)  
CM 1  
CRN 108-95-2  
CMF C6 H6 O



CM 2  
CRN 50-00-0  
CMF C H2 O

H<sub>2</sub>C=O

L55 ANSWER 46 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1993:582041 HCAPLUS Full-text  
 DN 119:182041  
 TI Heat-resistant and flexible and crack-resistant epoxy resin compositions  
 IN Nakada, Yoshihiro; Takigawa, Yukio  
 PA Fujitsu Ltd, Japan  
 SO Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese

FAN.CNT 1

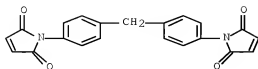
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05105741	A	19930427	JP 1991-266319	19911015 <--
PRAI	JP 1991-266319		19911015	<--	
AB	The title comps. contain epoxy resins 100, hardening agents such as phenol novolak resins or polyallylphenols 50-150, and an agent imparting flexibility, i.e., maleimidopropyl-terminated poly(tetramethylsilphenylenedisiloxane)/polydiethylenedioxysiloxane (I) 5-50 parts. Thus, a composition containing EOCN 1025, 100, polyallylphenol 70, and I 10 parts was pressed and cured.				
IC	ICM C08G059-62				
CC	ICS C08G059-40; C08L063-00				
IT	37-3 (Plastics Manufacture and Processing)				
IT	Phenolic resins, uses				
	RL: MOA (Modifier or additive use); USES (Uses)				
	(crosslinking agents, for epoxy resins containing flexibility improvers)				
IT	Phenolic resins, uses				
	RL: MOA (Modifier or additive use); USES (Uses)				
	(allyl group-containing, crosslinking agents, for epoxy resins containing flexibility improvers)				
IT	142146-67-6	142956-73-8	150600-80-9		
	RL: USES (Uses)				
	(flexibility improvers for, maleimidopropyl-terminated poly(tetramethylsilphenylenedisiloxane)/polydiethylenedioxysiloxanes as)				
IT	150600-80-9				
	RL: USES (Uses)				
	(flexibility improvers for, maleimidopropyl-terminated poly(tetramethylsilphenylenedisiloxane)/polydiethylenedioxysiloxanes as)				
RN	150600-80-9	HCAPLUS			
CN	Formaldehyde, polymer with EOCN 1025, 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione] and 2-(2-propenyl)phenol (9CI) (CA INDEX NAME)				
CM	1				
CRN	102135-69-3				
CMF	Unspecified				
CCI	PMS, MAN				

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

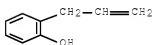
KATHLEEN FULLER EIC1700 571/272-2506

CRN 13676-54-5  
 CMF C21 H14 N2 O4



CM 3

CRN 1745-81-9  
 CMF C9 H10 O



CM 4

CRN 50-00-0  
 CMF C H2 O

H<sub>2</sub>C=O

L55 ANSWER 47 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1993:429255 HCAPLUS Full-text

DN 119:29255

TI Heat-resistant phenolic resin compositions for friction materials

IN Nagai, Yasuhiro; Haruyama, Shotaro; Aoki, Hiroshi; Ogawa, Yoshimi;  
 Osakabe, Kanji

PA Gunei Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CMT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04320412	A	19921111	JP 1991-114101	19910418 <--
PRAI	JP 1991-114101		19910418	<--	

AB The title comps. are obtained by reacting a novolak phenolic resin and poly(aminobismaleimide) prepolymer. A PhOH-HCHO resin was heated with Kerimid 601 at 200° for 30 min and mixed with hexamethylenetetramine to obtain a modified phenolic resin. A fading-resistant friction material was molded from

the above modified resin 15, cashew dust 10, Kevlar pulp 3, rock wool 10, chopped glass 10, CaCO<sub>3</sub> 47, and brass chip 5 parts.

IC ICM C08G008-28

CC 37-6 (Plastics Manufacture and Processing)

IT Phenolic resins, preparation

RL: PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)

(polyamine-polyimide-, bismaleimide-based, manufacture of heat-resistant, for fading-resistant friction materials)

IT 57013-63-5P

RL: PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)

(manufacture of heat-resistant, for fading-resistant friction materials)

IT 57013-63-5P

RL: PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)

(manufacture of heat-resistant, for fading-resistant friction materials)

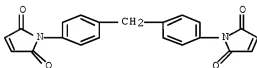
RN 57013-63-5 HCAPLUS

CN Formaldehyde, polymer with 4,4'-methylenebis[benzenamine], 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione] and phenol (9CI) (CA INDEX NAME)

CM 1

CRN 13676-54-5

CMF C21 H14 N2 O4



CM 2

CRN 108-95-2

CMF C6 H6 O

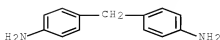


CM 3

CRN 101-77-9

CMF C13 H14 N2





CM 4

CRN 50-00-0

CMF C H2 O

H2C=O

L55 ANSWER 48 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1993:193255 HCAPLUS Full-text

DN 118:193255

TI Heat- and moisture-resistant bismaleimide resin sealing compositions and semiconductor devices using them

IN Shimozawa, Hiroshi; Fujieda, Shinetsu; Yoshizumi, Akira

PA Toshiba Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

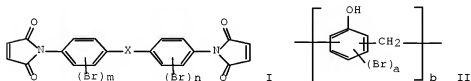
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04202454	A	19920723	JP 1990-330329	19901130 <--
PRAI	JP 1990-330329		19901130	<--	
GI					

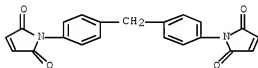


AB The title comps. comprise bismaleimide polymers and I ( $m = n \geq 1$ ;  $x =$  hydrocarbylene) and/or II ( $a = 1-3$ ;  $b$  is an integer). Thus, 27.3 parts prepolymer composition comprising diphenylmethanebismaleimide (II) 73, BRG-556 (phenolic novolak) 19, and brominated II 8 parts was mixed with Ph3P 0.20, dicumyl peroxide 0.04, polyethylene wax 0.30, silica 71.0, silane 0.04, and carbon powder 0.30 part, pelletized, transfer molded, and cured at 200° to give fire-resistant test pieces with bending modulus at 215° 878 kg/mm<sup>2</sup>, bending strength at 215° 8.8 kg/mm<sup>2</sup>, and moisture absorption 6511 ppm after 20 h at 135° and 85% relative humidity.

IC ICM C08L035-00

KATHLEEN FULLER EIC1700 571/272-2506

ICS C08K003-00; C08K005-13; C08K005-3417; H01L023-29; H01L023-31  
CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 76  
IT Phenolic resins, compounds  
RL: MOA (Modifier or additive use); USES (Uses)  
(novolak, brominated, heat stabilizers, polyimide sealing compns.  
containing)  
IT 57013-64-6  
RL: USES (Uses)  
(sealing compns., containing brominated phenolic compds., heat- and  
moisture-resistant, for semiconductors)  
IT 57013-64-6  
RL: USES (Uses)  
(sealing compns., containing brominated phenolic compds., heat- and  
moisture-resistant, for semiconductors)  
RN 57013-64-6 HCAPLUS  
CN Formaldehyde, polymer with 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-  
2,5-dione] and phenol (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 13676-54-5  
CMF C21 H14 N2 O4



CM 2  
  
CRN 108-95-2  
CMF C6 H6 O



CM 3  
  
CRN 50-00-0  
CMF C H2 O



AN 1993:104150 HCAPLUS Full-text  
 DN 118:104150  
 TI Epoxy resin-based heat-resistant potting compositions  
 IN Ota, Masaru; Saeki, Yukio  
 PA Sumitomo Bakelite Co., Ltd., Japan; Sumitomo Durez Co., Ltd.  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAP

DT Patent  
 LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04153214	A	19920526	JP 1990-275429	19901016 <--
	JP 2938173	B2	19990823		
PRAI	JP 1990-275429		19901016	<--	
AB	The title comps. useful for highly integrated circuits, comprise (a) epoxy resins, (b) phenol novolak hardeners containing 30-100% maleimide-, phthalimide-, or 3,4-naphthalimide-containing phenolic resins with imide-ring-containing unit 5-80%, (c) 5-300 phr maleimide derivs., (d) hardening accelerators, and (e) inorg. fillers. Thus, a cured potting composition prepared from o-cresol novolak epoxy resin 50, brominated bisphenol A-based epoxy resin 10, maleimide-containing phenolic resin 40, N,N-diphenylmethanebismaleimide 50, fused silica 340, and other additives 21 parts showed tensile strength and elastic modulus at 250° 290 and 300 kg/mm2, resp., and good solder and moisture resistance.				
IC	ICM C08G059-62				
	ICS C08G059-40; H01L023-29; H01L023-31				
CC	38-3 (Plastics Fabrication and Uses) Section cross-reference(s): 76				
IT	Phenolic resins, uses RL: USES (Uses) (epoxy, o-cresol-based, potting compns., containing maleimide derivs., heat-resistant)				
IT	77818-02-1	146052-80-4	146052-81-5		
	RL: USES (Uses) (epoxy resin potting compns. containing maleimide derivs. and, heat-resistant)				
IT	77818-02-1				
	RL: USES (Uses) (epoxy resin potting compns. containing maleimide derivs. and, heat-resistant)				
RN	77818-02-1	HCAPLUS			
CN	Formaldehyde, polymer with phenol and 1-phenyl-1H-pyrrole-2,5-dione (9CI) (CA INDEX NAME)				

CM 1

CRN 941-69-5

CMF C10 H7 N O2



CM 2

CRN 108-95-2  
CMF C6 H6 O



CM 3

CRN 50-00-0  
CMF C H2 O

H2C=O

L55 ANSWER 50 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1993:104149 HCAPLUS Full-text

DN 118:104149

TI Biphenyl-type epoxy resins in heat-resistant potting compositions

IN Ota, Masaru; Saeki, Yukio

PA Sumitomo Bakelite Co., Ltd., Japan; Sumitomo Durez Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 04153213	A	19920526	JP 1990-275430	19901016 <--
	JP 2938174	B2	19990823		
PRAI	JP 1990-275430		19901016	<--	

AB The title compns., useful for highly integrated circuits, contain biphenyl-type epoxy resins, phenol novolak hardeners containing 30-100% maleimide-, phthalimide-, or 3,4-naphthalimide group-containing phenolic resin, maleimide derivs., hardening accelerators, and inorg. fillers. A cured potting composition containing 3,3',5,5'-tetramethylbiphenyl-4,4'-diol diglycidyl ether 90, brominated bisphenol A epoxy resin 10, phthalimido group-containing phenolic resin 90, fused silica 500, and additives 20 parts showed tensile strength and elastic modulus at 250° 2.5 and 60 kg/mm2, resp., and good solder-heat and moisture resistance.

IC ICM C08G059-24

ICS C08G059-62; H01L023-29; H01L023-31

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37, 76

IT Phenolic resins, uses

RL: USES (Uses)

(hardeners, for biphenyl epoxy resins in potting compns.)

IT 85-41-6D, 1H-Isoindole-1,3(2H)-dione, derivs. 77813-02-1

146052-80-4 146052-81-5

RL: USES (Uses)

(hardeners, for biphenyl epoxy resins in potting compns.)

IT 77813-02-1

KATHLEEN FULLER EIC1700 571/272-2506

RL: USES (Uses)

(hardeners, for biphenyl epoxy resins in potting compns.)

RN 77818-02-1 HCAPLUS

CN Formaldehyde, polymer with phenol and 1-phenyl-1H-pyrrole-2,5-dione (9CI)  
(CA INDEX NAME)

CM 1

CRN 941-69-5

CMF C10 H7 N O2



CM 2

CRN 108-95-2

CMF C6 H6 O



CM 3

CRN 50-00-0

CMF C H2 O



L55 ANSWER 51 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1992:428420 HCAPLUS [Full-text](#)

DN 117:28420

OREF 117:5131a,5134a

TI Manufacture of microcapsules by in-situ condensation of urea and formalin

IN Nozawa, Hiroshi; Hirashima, Masao; Kawame, Toshimitsu

PA Kuraray Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 04004034	A	19920108	JP 1990-106129	19900420 <--

PRAI JP 1990-106129

19900420 &lt;--

AB Title materials, useful for copying paper, etc., are prepared by condensation of urea and HCHO in acidic aqueous dispersions containing water-insol. core materials and copolymers having  $\alpha$ -olefin- or styrene-derived units, maleic anhydride (I)-derived units, and CH(CO<sub>2</sub>H)CHCO<sub>2</sub>(AO)<sub>n</sub>R [R = C<sub>1</sub>-10 alkyl; A = (phenyl-substituted) C<sub>2</sub>-4 vicinal alkylene; n  $\geq$ 1]. Thus, 30.8 g 1:1 isobutylene-I copolymer was treated with 29.2 g poly(oxyethylene) monoethyl ether and aqueous NaOH to give a modifier, 10% aqueous solution of which was blended with 5 g urea, 0.5 g resorcinol, 100 g water, and 100 mL composition containing Crystal Violet Lactone, and the resulted emulsion was mixed with 12.5 g 37% HCHO to give a slurry containing encapsulated pigment. Copying paper containing the encapsulated pigment showed high coloring property and improved storage stability.

IC ICM B01J013-18

ICS B41M005-165

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 74

IT Phenolic resins, preparation

RL: PREP (Preparation)

(aminoplast-, preparation of, for encapsulation, polyoxyalkylene maleic anhydride copolymer ester modifier for)

IT 142298-03-1P 142298-04-2P 142298-05-3P

RL: PREP (Preparation)

(microcapsules, preparation of, without dilution with aqueous media)

IT 142298-03-1P

RL: PREP (Preparation)

(microcapsules, preparation of, without dilution with aqueous media)

RN 142298-03-1 HCAPLUS

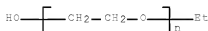
CN 1H-Pyrrole-2,5-dione, 1-phenyl-, polymer with 2,5-furandione and 2-methyl-1-propene, ester with 1,3-benzenediol polymer with formaldehyde and urea, and  $\alpha$ -ethyl- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (9CI)  
(CA INDEX NAME)

CM 1

CRN 27879-07-8

CMF (C2 H4 O)<sub>n</sub> C2 H6 O

CCI PMS



CM 2

CRN 113150-53-1

CMF (C10 H7 N O2 . C4 H8 . C4 H2 O3)<sub>x</sub>

CCI PMS

CM 3

CRN 941-69-5

CMF C10 H7 N O2



CM 4

CRN 115-11-7

CMF C4 H8



CM 5

CRN 108-31-6

CMF C4 H2 O3



CM 6

CRN 34903-84-9

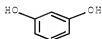
CMF (C6 H6 O2 . C H4 N2 O . C H2 O)x

CCI PMS

CM 7

CRN 108-46-3

CMF C6 H6 O2



CM 8

CRN 57-13-6

CMF C H4 N2 O



CM 9

CRN 50-00-0

CMF C H2 O



L55 ANSWER 52 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1992:107852 HCAPLUS [Full-text](#)

DN 116:107852

OREF 116:18267a,18270a

TI Highly heat-resistant epoxy resin compositions for sealing electronic devices

IN Hirata, Akihiro

PA Sumitomo Bakelite Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03237126	A	19911023	JP 1990-32524	19900215 <--
PRAI	JP 1990-32524		19900215	<--	

AB Title compns. comprise (A) epoxy resins, (B) inorg. fillers, (C) curing catalysts, and (D) modifiers which are the reaction products of allyl group-containing phenols with the monomaleimides R1ArR2 (R1 = maleimide group; R2 = H, OH; Ar = C6-20 arylene) at the R1/allyl group ratio of 0.5-3.0. Thus, heating 370 g N-(4-hydroxyphenyl)maleimide with 100 g o-allylphenol gave a modifier, 40 parts of which was compounded with EOCN (a cresol novolak epoxy resin) 49.0, PR-51714 phenol novolak crosslinker 1.0, BREN (brominated epoxy resin) 10, Ph3P 1.3, wax 2.0, and silica filler 300 parts to give a sealing composition providing transfer moldings with excellent mech. strength and heat resistance.

IC ICM C08G059-40

ICS C08G059-40; C08G059-62; H01L023-29; H01L023-31

CC 38-3 (Plastics Fabrication and Uses)

IT Phenolic resins, uses

RL: USES (Uses)

(epoxy, novolak, potting compns. containing maleimide-allylphenol copolymer modifiers, with good heat resistance)

IT Phenolic resins, compounds

RL: USES (Uses)

(epoxy, novolak, brominated, flame retardants, in epoxy resin potting compns. containing allylphenol-maleimide reaction products for good heat resistance)

IT Phenolic resins, uses

RL: USES (Uses)

(novolak, crosslinkers, for epoxy resin potting compns. containing allylphenol-monomaleimide copolymers as modifiers)

KATHLEEN FULLER EIC1700 571/272-2506

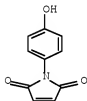


IT 7300-91-6DP, N-(4-Hydroxyphenyl)maleimide, copolymers with allyl  
group-containing phenols 115157-30-7P 139321-52-1P 139375-22-7DP  
, phenolic novolak polymers with hydroxyphenylmaleimide  
RL: PREP (Preparation)  
(preparation of, for epoxy potting compns. with good heat resistance)  
IT 139375-22-7DP, phenolic novolak polymers with  
hydroxyphenylmaleimide  
RL: PREP (Preparation)  
(preparation of, for epoxy potting compns. with good heat resistance)  
RN 139375-22-7 HCAPLUS  
CN Formaldehyde, polymer with 1-(4-hydroxyphenyl)-1H-pyrrole-2,5-dione,  
phenol and 2-(2-propenyl)phenol (9CI) (CA INDEX NAME)

CM 1

CRN 7300-91-6

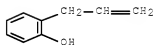
CMF C10 H7 N O3



CM 2

CRN 1745-81-9

CMF C9 H10 O



CM 3

CRN 108-95-2

CMF C6 H6 O



CM 4

CRN 50-00-0

CMF C H2 O

H2C=O

L55 ANSWER 53 OF 84 HCAPLUS COPYRIGHT 2008 ACS on SIN

AN 1992:60804 HCAPLUS Full-text

DN 116:60804

OREF 116:10515a,10518a

TI Curable polymer compositions

IN Shinohara, Norio; Otani, Kazuo; Hanyuda, Toshiaki

PA Showa Highpolymer Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03093818	A	19910418	JP 1989-230287	19890907 <--
	JP 2728515	B2	19980318		
PRAI	JP 1989-230287		19890907 <--		
AB	Title compns. with long pot-life and giving good heat resistance are composed of (A) compds. containing $\geq 2$ maleimides, (B) compds. containing $\geq 2$ vinylbenzyl ether groups bonded to aromatic residues, and (C) NH3 or Al salts of N-nitrosophenylhydroxylamine (I). Thus, reaction of bisphenol A 91, KOH 45, chloromethylstyrene 124, and hydroquinone 0.1 part DMSO-H2O gave bisphenol A bis(vinylbenzyl) ether (II). A equimol. mixture of II and diphenylmethanebismaleimide was mixed with 0.05 part NH3 salt of I in a sealed tube at 120° to show gelation time 8 min and give good heat-resistant molded products, vs. 3 min when hydroquinone was used instead of NH3 salt of I.				
IC	ICM C08F299-00				
CC	37-6 (Plastics Manufacture and Processing)				
IT	9903-35-4D, BRG 555, reaction products with chloromethylstyrene				
	103382-65-6	116237-20-8	122582-72-3	122582-75-6	137459-93-9
RL: USES (Uses)	(curable compns., containing maleimide-containing compds. and nitrosophenylhydroxylamine ammonium or aluminum salts, with long pot-life and good heat resistance)				
IT	122563-97-7P	122582-74-5P	137459-92-8P	137459-94-0P	
	137459-95-1P	137459-96-2P			
RL: PREP (Preparation)	(preparation of, with good heat resistance)				
IT	9903-35-4D, BRG 555, reaction products with chloromethylstyrene				
RL: USES (Uses)	(curable compns., containing maleimide-containing compds. and nitrosophenylhydroxylamine ammonium or aluminum salts, with long pot-life and good heat resistance)				
RN	9003-35-4 HCAPLUS				
CN	Phenol, polymer with formaldehyde (CA INDEX NAME)				

CM 1

CRN 108-95-2

CMF C6 H6 O



CM 2  
CRN 50-00-0  
CMF C H2 O

H2C=O

L55 ANSWER 54 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1991:584545 HCAPLUS Full-text

DN 115:184545

OREF 115:31535a,31538a

TI Maleimide resin compositions containing flexibilizers, curing agents and surfactants

IN Takigawa, Yukio; Saruwatari, Norio; Nakada, Yoshihiro; Toyama, Wataru

PA Fujitsu Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03100020	A	19910425	JP 1989-235533	19890913 <--
PRAI	JP 1989-235533		19890913	<--	
AB	The title comps. contain 100, siloxane diamine flexibilizers 5-80, diamine curing agents 10-95, and silicone surfactants 0.2-10 parts. Thus, a mixture of (methylenediphenylene)bismaleimide-methylenedianiline copolymer 100, silicone surfactant 2, Sumicure M 30, Silaplane FM-3311 (I) 5, powdered silica 100, and diazabicycloundecene 16 parts had better crack resistance than without I.				
IC	ICM C08G073-12				
CC	37-3 (Plastics Manufacture and Processing)				
IT	Phenolic resins, uses and miscellaneous				
	RL: MOA (Modifier or additive use); USES (Uses)				
	(crosslinking agents, for polymaleimides)				
IT	Phenolic resins, uses and miscellaneous				
	RL: MOA (Modifier or additive use); USES (Uses)				
	(epoxy, crosslinking agents, for polymaleimides)				
IT	26140-67-0 136700-79-3				
	RL: USES (Uses)				
	(plasticizers for, siloxane diamines as)				
IT	136700-79-3				
	RL: USES (Uses)				
	(plasticizers for, siloxane diamines as)				
RN	136700-79-3 HCAPLUS				
CN	1H-Pyrrole-2,5-dione, 1,1'-(methylenediphenylene)bis-, polymer with Epiclon N 665 and Varcum TD 2131 (9CI) (CA INDEX NAME)				

CM 1

KATHLEEN FULLER EIC1700 571/272-2506

CRN 96957-48-1  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 93196-92-0  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 3

CRN 36153-86-3  
CMF C21 H14 N2 O4  
CCI IDS



1/2 [ D1-CH2-D1 ]



L55 ANSWER 55 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1990:593024 HCAPLUS Full-text

DN 113:193024

OREF 113:32679a,32682a

TI Perfluoroalkyl ether substituted phenolic resin compositions for electric parts

IN Nishikawa, Akio; Koyama, Toru; Asano, Hideki

PA Hitachi, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 23 pp.

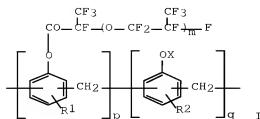
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 02129257	A	19900517	JP 1988-283470	19881109 <--
PRAI	JP 1988-283470		19881109	<--	
GI					



AB The title reliable comps. comprise  $\geq 1$  I (R1, R2 = H, lower alkyl, perfluoroalkyl, Cl, Br, in para or undefined position of phenol group; m = 1-40; p = 1-200; q = 0-200; X = H, CN, glycidyl, Cl-3 perfluoroalkyl substituted ethene). A potting composition prepared from 100:65 EOCN102S-I (m = 20; R1, R2 = H; p = 0.5; X = H; q = 4) mixture containing triphenylphosphine, KBM303, titanate compound, Ca stearate, wax, fire retardant, Al filler, SiO<sub>2</sub>, and carbon black, was heated and ground. A semiconductor device, prepared from the composition, had 100% reliability after 2000 h in a 400° pressure cooker.

IC ICM C08L061-14

ICS C08F212-14; H01L023-29; H01L023-31; H05K003-28

ICA H01F005-06

ICI C08L061-14, C08L025-18

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37, 76

IT Phenolic resins, compounds

RL: USES (Uses)

(perfluoroalkyl ethers, potting comps. containing)

IT 130213-04-6 130213-12-6 130213-23-9 130230-82-9

130230-83-0 130230-84-1 130230-85-2 130230-86-3

130230-87-4 130230-88-5 130230-89-6

130230-90-9 130230-91-0 130230-92-1

130230-93-2 130230-94-3 130230-95-4

130230-96-5 130230-97-6 130230-98-7

130270-18-7 130291-60-0 130319-96-9

RL: TEM (Technical or engineered material use); USES (Uses)

(potting comps. containing, for semiconductor devices, reliable)

IT 130213-23-9

RL: TEM (Technical or engineered material use); USES (Uses)

(potting comps. containing, for semiconductor devices, reliable)

RN 130213-23-9 HCAPLUS

CN Formaldehyde, polymer with 1,3-benzenediol, ester with

$\alpha$ -(1-carboxy-1,2,2,2-tetrafluoroethyl)- $\omega$ -

(heptafluoropropoxy)poly[oxy(trifluoro(trifluoromethyl)-1,2-ethanediyl)],

polymer with 4,4'-methylenebis[2-(2-propenyl)phenol], 2,2'-[(1-

methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] and

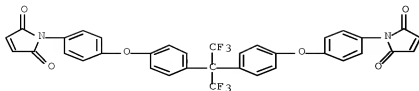
1,1'-[[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis(4,1-phenyleneoxy-

4,1-phenylene)]bis[1H-pyrrole-2,5-dione] (9CI) (CA INDEX NAME)

CM 1

CRN 118569-70-3

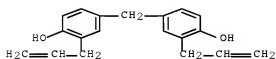
CMF C35 H20 F6 N2 O6



CM 2

CRN 62386-37-2

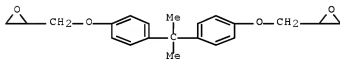
CMF C19 H20 O2



CM 3

CRN 1675-54-3

CMF C21 H24 O4



CM 4

CRN 130123-04-5

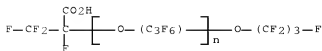
CMF (C6 H6 O2 . C H2 O)x . x (C3 F6 O)n C6 H F11 O3

CM 5

CRN 90317-74-1

CMF (C3 F6 O)n C6 H F11 O3

CCI IDS, PMS

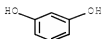


CM 6

CRN 24969-11-7  
 CMF (C6 H6 O2 . C H2 O)x  
 CCI PMS

CM 7

CRN 108-46-3  
 CMF C6 H6 O2



CM 8

CRN 50-00-0  
 CMF C H2 O



L55 ANSWER 56 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1990:573707 HCAPLUS [Full-text](#)

DN 113:173707

OREF 113:29457a,29460a

TI Unsaturated imide group-containing phenolic resins and their compositions and uses

IN Nishikawa, Akio; Koyama, Toru; Asano, Hideki

PA Hitachi, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 23 pp.

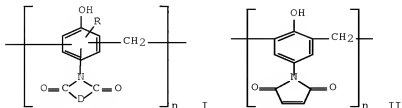
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02132114	A	19900521	JP 1988-283674	19881111 <--
PRAI	JP 1988-283674		19881111	<--	
GI					



AB The polymers I for use in multilayer printed circuit boards and sealants for large-scale integrated circuits are prepared, where R = H, alkyl, fluoroalkyl, or heteroalkyl; D = divalent organic groups bearing unsatd. double bond; n = 1-10. Thus, glass cloths were impregnated with a varnish containing II 100, DER 332 50, o-diallylbisphenol F 50, 2,2-bis[4-(4-maleimidophenoxy)phenyl]hexafluoropropane 50, dicyandiamide 5, benzylamine, 3, dicumyl peroxide 3, and KBM 403 2 parts and used to prepare laminates with Cu foils.

IC ICM C08G008-28  
ICS B32B027-42; C08G059-26; C08L061-14; C09D161-14; C09J161-14;  
H01F005-06; H01L023-29; H01L023-31; H05K003-46

CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 76

IT Phenolic resins, preparation  
RL: PREP (Preparation)  
(maleimido, manufacture of)

IT Phenolic resins, compounds  
RL: USES (Uses)  
((hydroxyphenyl)bismaleimide-based, ethers, with perfluoroolefins, crosslinking agents, for epoxy resins)

IT 76528-62-6D, perfluoroolefin ethers  
RL: MOA (Modifier or additive use); USES (Uses)  
(crosslinking agents, for novolak epoxy resins)

IT 129698-34-6 129698-35-7 129698-37-9  
129698-38-8 129698-39-1 129698-40-4  
129698-41-5 129719-18-2  
RL: USES (Uses)  
(glass cloths impregnated with, laminates with copper foils)

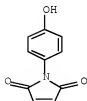
IT 76528-62-6D, perfluoroolefin ethers  
RL: MOA (Modifier or additive use); USES (Uses)  
(crosslinking agents, for novolak epoxy resins)

RN 76528-62-6 HCAPLUS

CN Formaldehyde, polymer with 1-(4-hydroxyphenyl)-1H-pyrrole-2,5-dione (9CI)  
(CA INDEX NAME)

CM 1

CRN 7300-91-6  
CMF C10 H7 N O3



CM 2

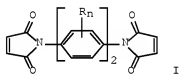
CRN 50-00-0  
CMF C H2 O





L55 ANSWER 57 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1990:553799 HCAPLUS Full-text  
 DN 113:153799  
 OREF 113:26153a,26156a  
 TI Heat- and moisture-resistant thermosetting resin compositions based on  
 bismaleimides and phenols  
 IN Maeda, Masatoshi; Kuroyanagi, Akihisa; Kamiyama, Hirokatsu; Kawamoto,  
 Norio  
 PA Nitto Denko Corp., Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02133411	A	19900522	JP 1988-288391	19881114 <--
PRAI	JP 1988-288391		19881114	<--	
GI					



AB The title compns., useful for the potting of semiconductors, etc., contain phenolic resins, bismaleimide mixts. containing 4.5-35% 4,4'-dimaleimido-1,1'-biphenyl or derivs. having Cl-2 alkyl or alkoxy groups on the aromatic rings, and curing catalysts. A mixture of bis(4-maleimidophenyl)methane (I) 90, 4,4'-dimaleimido-3,3'-dimethyl-1,1'-biphenyl 5, (dimethylaminomethyl)phenol 1.5, and p-hydroxybenzaldehyde-phenol copolymer 30.5 parts was heated to give a resin having glass temperature  $\geq 300^\circ$ , vs. 225 for a resin prepared from 100 parts I and 22.5 parts bis(4-aminophenyl)methane.

IC ICM C08F022-40  
 ICS C09K003-10; H01L023-29; H01L023-31

ICA C09D004-02; C09J004-02

CC 37-6 (Plastics Manufacture and Processing)  
 Section cross-reference(s): 38, 76

IT Phenolic resins, preparation  
 RL: PREP (Preparation)  
 (polyimide-, bismaleimide-based, preparation of heat- and water-resistant, for potting of semiconductors)

IT 129557-97-7P 129557-98-8P  
 RL: PREP (Preparation)  
 (preparation of heat- and water-resistant, for potting of semiconductors)

IT 129557-97-7P

RL: PREP (Preparation)

(preparation of heat- and water-resistant, for potting of semiconductors)

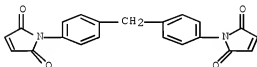
RN 129557-97-7 HCAPLUS

CN Benzaldehyde, 4-hydroxy-, polymer with 1,1'-(3,3'-dimethyl[1,1'-biphenyl]-4,4'-diyl)bis[1H-pyrrole-2,5-dione], 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione] and phenol (9CI) (CA INDEX NAME)

CM 1

CRN 13676-54-5

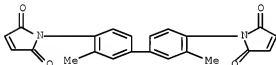
CMF C21 H14 N2 O4



CM 2

CRN 13360-85-5

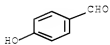
CMF C22 H16 N2 O4



CM 3

CRN 123-08-0

CMF C7 H6 O2



CM 4

CRN 108-95-2

CMF C6 H6 O



L55 ANSWER 58 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1990:498748 HCAPLUS Full-text

DN 113:98748

OREF 113:16693a,16696a

TI Thermosetting compositions of maleimide resins and high-molecular-weight phenolic resins

IN Suzuki, Kenichi; Enoki, Hisafumi

PA Sumitomo Bakelite Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

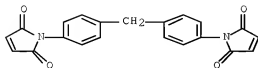
DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02024305	A	19900126	JP 1988-172667	19880713 <--
PRAI	JP 1988-172667		19880713	<--	
AB	Heat aging-resistant title comps. with good toughness comprise maleimide resins, phenolic resins having m.p. 120-250° and number-average mol. weight (.hivin.Mn) 1500-10,000, and curing catalysts. Thus, formalin-phenol copolymer (I, m.p. 173°, .hivin.Mn 3500) 11, BMI (bismaleimide) 19, PPh3 0.15, dicumyl peroxide 0.15, glass fibers 70, aminosilane coupler 1, and Zn stearate 2 parts were mixed, kneaded, transfer molded at 180° for 3 min, and post cured at 200° for 4 h to give test pieces having glass transition temperature 242°, which after 1 mo at 250° showed flexural strength 13.7 kg/mm2, vs. 248° and 9.3 kg/mm2 using a resol (m.p. 95°, .hivin.Mn 750) containing MgO instead of I.				
IC	ICM C08F022-40				
	ICS C08F002-44; C08L035-00; C08L061-10				
CC	37-6 (Plastics Manufacture and Processing)				
IT	Phenolic resins, uses and miscellaneous				
	RL: RCT (Reactant); RACT (Reactant or reagent)				
	(crosslinking of, with maleimide resins, for thermally stable moldings with good toughness)				
IT	57013-64-6P	108188-92-7P	128800-60-2P	128805-30-1P	
	RL: PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)				
	(preparation of crosslinked, with low thermal expansion and good toughness and heat aging resistance)				
IT	9903-35-4P	Formalin-phenol copolymer			72845-92-2P
	RL: PREP (Preparation)				
	(preparation of high-mol.-weight, and crosslinking with maleimide resins, for thermally stable moldings with good toughness)				
IT	57013-64-6P				
	RL: PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)				
	(preparation of crosslinked, with low thermal expansion and good toughness and heat aging resistance)				
RN	57013-64-6 HCAPLUS				
CN	Formaldehyde, polymer with 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione] and phenol (9CI) (CA INDEX NAME)				

CM 1  
CRN 13676-54-5  
CMF C21 H14 N2 O4



CM 2  
CRN 108-95-2  
CMF C6 H6 O



CM 3  
CRN 50-00-0  
CMF C H2 O



L55 ANSWER 59 OF 84 HCAPLUS COPYRIGHT 2008 ACS on SIN  
AN 1990:479791 HCAPLUS Full-text  
DN 113:79791  
OREF 113:13505a,13508a  
TI Bismaleimide-containing thermosetting composition  
IN Wang, Pen Chung  
PA Shell Internationale Research Maatschappij B. V., Neth.  
SO Eur. Pat. Appl., 8 pp.  
CODEN: EPXXDW  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 352868	A1	19900131	EP 1989-201989	19890727 <--
	R: DE, FR, GB, IT				
	JP 02110158	A	19900423	JP 1989-192803	19890727 <--
PRAI	US 1988-226165	A	19880729	<--	
OS	MARPAT 113:79791				

AB The processability and flex strength of the title composition is improved by blending with an allylphenol novolac or allylphenol novolac ether resin. A 50:50 blend of N,N-4,4'-diphenylmethane bismaleimide and 2-allylphenol novolac (2.0 mol 2-allylphenol reacted with 1.6 mol HCHO at 90° for 1 h in presence of oxalic acid) was cured at 180° for 2 h, 210° for 2 h, and 250° for 6 h to give a product having glass transition temperature 251°, fracture toughness 535 psi, and flexural strength 19.9, vs. 275°, 200-300, and no value, resp., for cured bismaleimide.

IC ICM C08G073-12

CC 37-6 (Plastics Manufacture and Processing)

IT Phenolic resins, preparation  
RL: PREP (Preparation)  
(novolak, allylphenol-based, bismaleimide-crosslinked, with improved fracture toughness)

IT 128761-85-3P 128774-93-6P  
RL: PREP (Preparation)  
(preparation of, with good fracture toughness)

IT 128761-85-3P  
RL: PREP (Preparation)  
(preparation of, with good fracture toughness)

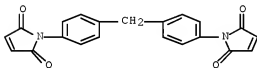
RN 128761-85-3 HCAPLUS

CN Formaldehyde, polymer with 4-aminophenol, 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione] and 2-(2-propenyl)phenol (9CI) (CA INDEX NAME)

CM 1

CRN 13676-54-5

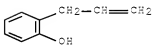
CMF C21 H14 N2 O4



CM 2

CRN 1745-81-9

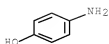
CMF C9 H10 O



CM 3

CRN 123-30-8

CMF C6 H7 N O



CM 4

CRN 50-00-0

CMF C H2 O

H<sub>2</sub>C=O

L55 ANSWER 60 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1990:442199 HCAPLUS Full-text

DN 113:42199

OREF 113:7181a,7184a

TI Heat-resistant epoxy resin compositions for semiconductor sealants

IN Kitahara, Mikio; Machida, Koichi; Kubo, Takayuki; Torikai, Motoyuki; Asahina, Kotaro

PA Mitsui Toatsu Chemicals, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

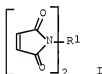
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02034623	A	19900205	JP 1988-183576	19880725 <--
PRAI	JP 1988-183576		19880725	<--	
GI					



AB The title compns. with low modulus and thermal expansion coefficient, good thermal impact resistance and solder heat resistance, and giving sealed devices without staining the molds comprise (A) vinyl polymer-grafted epoxy resins uniformly dispersed with soft vinyl silicone-based polymers (size  $\leq 1.0 \mu\text{m}$ ), (B) reaction products of bismaleimides I ( $\text{R1} = \text{C} \geq 2$  organic group) and compds. containing  $\geq 2$  phenolic OH, and (C) inorg. fillers. Thus, 100 parts o-cresol novolak epoxy resin was treated with 1 part methacrylic acid, then polymerized with 3.6 parts Bu acrylate and 0.1 part glycidyl methacrylate at  $100^\circ$  for 1 h, and a mixture of methacryloxypropyl siloxane 30, neopentyl glycol diacrylate 0.6, and 1,1-bis(tert-butylperoxy)-3,3,5-

KATHLEEN FULLER EIC1700 571/272-2506

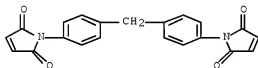
trimethylcyclohexane 0.15 part was added dropwise to form rubber particles (size 0.2-0.5  $\mu\text{m}$ ) dispersed in the vinyl-grafted epoxy resin. Then, the composition 30, a reaction product of 100 parts I ( $\text{R1} = \text{p-C6H4CH2-p-C6H4}$ ) and 25 parts phenol novolak 70, fused  $\text{SiO2}$  260, PPh3 1, a silane coupler 2, carbon black 1, and carnauba wax 2 parts were roll kneaded and pulverized to give title composition. Model elements transfer molded with the composition showed cracks in 0/20 samples when soaked in FC 70 at 215° after 24-h in a pressure cooker test, vs., 10/20 with EOCN 1020 instead of the composition.

- IC ICM C08G059-32  
ICS C08G059-00; C09K003-10; H01L023-29; H01L023-31
- CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 76
- IT Phenolic resins, uses and miscellaneous  
RL: USES (Uses)  
(polyimide-, bismaleimide-based, vinyl polymer-grafted epoxy resin blends, containing silicone rubbers, for semiconductor sealants)
- IT 57013-64-6  
RL: USES (Uses)  
(vinyl polymer-grafted epoxy resin blends, containing silicone rubbers, for semiconductor sealants)
- IT 57013-64-6  
RL: USES (Uses)  
(vinyl polymer-grafted epoxy resin blends, containing silicone rubbers, for semiconductor sealants)
- RN 57013-64-6 HCAPLUS
- CN Formaldehyde, polymer with 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione] and phenol (9CI) (CA INDEX NAME)

CM 1

CRN 13676-54-5

CMF C21 H14 N2 O4



CM 2

CRN 108-95-2

CMF C6 H6 O



CM 3

CRN 50-00-0

CMF C H2 O

H2C=O

L55 ANSWER 61 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1990:425288 HCAPLUS Full-text

DN 113:25288

OREF 113:4397a,4400a

TI Heat-resistant epoxy resin compositions for semiconductor sealants

IN Kitahara, Mikio; Machida, Koichi; Kubo, Takayuki; Torikai, Motoyuki; Asahina, Kotaro

PA Mitsui Toatsu Chemicals, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.

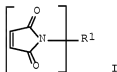
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02032117	A	19900201	JP 1988-180360	19880721 <--
PRAI	JP 1988-180360		19880721	<--	
GI					



AB The title compns., having low modulus and thermal expansion coefficient, good thermal impact resistance and solder heat resistance, and giving sealed devices without staining the molds, comprise (A) vinyl polymer-grafted epoxy resins uniformly dispersed with silicone rubber (size  $\leq 1.0 \mu\text{m}$ ) prepared by the addition reaction of silicone polymers, (B) reaction products of bismaleimides I ( $\text{R}_1 = \text{C}_2$  organic group) and compds. containing  $\geq 2$  phenolic OH groups, and (C) inorg. fillers. Thus, 100 parts o-cresol novolak epoxy resin was treated with 1 part methacrylic acid, then polymerized with 5 parts Bu acrylate and 10 parts methacryloxypropyl silicone oligomers at  $75^\circ$  for 4 h and stirred with KE 1204 (vinyl siloxane/hydrogen siloxane mixture) for 2 h to give a modified epoxy resin (II) dispersed with silicone rubber (size  $0.2\text{--}0.5 \mu\text{m}$ ). Then, II 30, a reaction product of 100 parts I ( $\text{R}_1 = \text{p-C}_6\text{H}_4\text{CH}_2\text{--p-C}_6\text{H}_4$ ) and 25 parts novolak phenol 70, fused SiO<sub>2</sub> 260, PPh<sub>3</sub> 1, a silane coupler 2, carbon black 1, and carnauba wax 2 parts, were roll-kneaded and pulverized to give a title composition. Model elements transfer-molded with this composition showed cracks in 0/20 samples when soaked in FC 70 at  $215^\circ$  after a 24-h pressure cooker test, vs. 10/20 when using EOCN 1020 instead of II.

IC ICM C08G059-40

ICS C08G059-32; C09K003-10; H01L023-29; H01L023-31

CC 38-3 (Plastics Fabrication and Uses)

KATHLEEN FULLER EIC1700 571/272-2506



Section cross-reference(s): 76

IT Phenolic resins, uses and miscellaneous

RL: USES (Uses)

(polyimide-, bismaleimide-based, vinyl polymer-grafted epoxy resin blends, containing silicone rubbers, for semiconductor sealants)

IT 57013-64-6

RL: USES (Uses)

(vinyl polymer-grafted epoxy resin blends, containing silicone rubbers, for semiconductor sealants)

IT 57013-64-6

RL: USES (Uses)

(vinyl polymer-grafted epoxy resin blends, containing silicone rubbers, for semiconductor sealants)

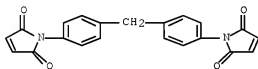
RN 57013-64-6 HCAPLUS

CN Formaldehyde, polymer with 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione] and phenol (9CI) (CA INDEX NAME)

CM 1

CRN 13676-54-5

CMF C21 H14 N2 O4



CM 2

CRN 108-95-2

CMF C6 H6 O



CM 3

CRN 50-00-0

CMF C H2 O



L55 ANSWER 62 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1990:199672 HCAPLUS [Full-text](#)

DN 112:199672

OREF 112:33769a,33772a

TI Salicylic acid-biuret-trioxane terpolymer resins and their ion-exchange properties

AU Pal, T. K.; Kharat, R. B.

CS Dep. Chem., Inst. Sci., Nagpur, 440 001, India

SO Angewandte Makromolekulare Chemie (1989), 173, 55-68

CODEN: ANMCBO; ISSN: 0003-3146

DT Journal

LA English

AB Terpolymer resins were synthesized by the condensation of salicylic acid and biuret with trioxane in the presence of acid catalyst and using varied molar ratios of reacting monomers. IR spectra were studied to elucidate the structure. TGA data were analyzed to estimate the characteristic thermal parameters. The terpolymer resins were further characterized by reflectance spectra in solid state, adsorption spectra in nonaq. medium, x-ray diffraction, and elec. conductivity. Chelation ion-exchange properties were also studied employing the batch equilibration method.

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 35, 36, 38

IT Phenolic resins, preparation

RL: PEP (Physical, engineering or chemical process); PROC (Process) (aminoplast-, preparation and characterization of, as ion exchangers)

IT 126883-10-1P

RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (preparation and characterization of, as ion exchanger)

IT 126883-10-1P

RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process) (preparation and characterization of, as ion exchanger)

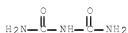
RN 126883-10-1 HCAPLUS

CN Benzoic acid, 2-hydroxy-, polymer with formaldehyde and imidodicarbonic diamide (9CI) (CA INDEX NAME)

CM 1

CRN 108-19-0

CMF C2 H5 N3 O2



CM 2

CRN 69-72-7

CMF C7 H6 O3



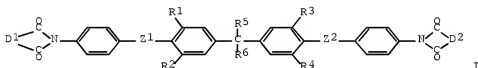
CM 3  
CRN 50-00-0  
CMF C H2 O

H2C=O

L55 ANSWER 63 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 1990:139996 HCAPLUS Full-text  
DN 112:139996  
OREF 112:23681a,23684a  
TI Unsaturated bisimides and their polymers  
IN Nishikawa, Akio; Koyama, Toru; Asano, Hideki; Narahara, Toshikazu;  
Sugawara, Toshio  
PA Hitachi, Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 16 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01117861	A	19890510	JP 1987-273148	19871030 <--
	JP 06055795	B	19940727		
PRAI	JP 1987-273148		19871030	<--	

GI



AB The imides I (Z1, Z2 = O, CO, COO, but not both O; D1, D2 = divalent unsatd. group; R1-6 = H, alkyl, perfluoroalkyl) are useful in flexible, heat-resistant polymers. A molding prepared from bisphenol A bis(4-maleimidobenzoate) 100, N,N'-(methylenedi-p-phenylene)bismaleimide 100, dicyandiamide 5, dicumyl peroxide 3, coupling agents 3.1, parting agent 2, and carbon black 1 part and fillers had flexural strength (at 180°) 585 kg/cm2, with no change after 30 days at 200°.

IC ICM C07D207-452  
CC 35-2 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 27  
IT Epoxy resins, uses and miscellaneous  
Phenolic resins, uses and miscellaneous  
RL: USES (Uses)  
(polyimide-, bismaleimide-based, moldings, heat-resistant)

IT 125371-42-8 125371-43-9 125371-44-0 125371-45-1

125371-46-2 125371-47-3 125371-48-4 125394-59-4

125467-66-5

RL: USES (Uses)

(moldings, heat-resistant)

IT 125371-42-3

RL: USES (Uses)

(moldings, heat-resistant)

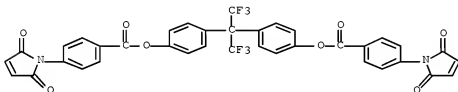
RN 125371-42-8 HCAPLUS

CN Benzoic acid, 4-(2,5-dihydro-2,5-dioxo-1H-pyrrol-1-yl)-,  
[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]di-4,1-phenylene ester,  
polymer with formaldehyde and phenol (9CI) (CA INDEX NAME)

CM 1

CRN 125371-41-7

CMF C37 H20 F6 N2 O8



CM 2

CRN 108-95-2

CMF C6 H6 O



CM 3

CRN 50-00-0

CMF C H2 O



L55 ANSWER 64 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1989:596019 HCAPLUS [Full-text](#)

DN 111:196019

OREF 111:32589a,32592a

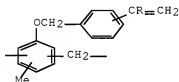
TI Cresol novolak resin vinylbenzyl ethers

IN Shibata, Mitsuhiro; Saito, Yasuhisa

PA Sumitomo Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01108212	A	19890425	JP 1987-267552	19871021 <--
PRAI	JP 1987-267552		19871021	<--	
GI					



I

AB The title resins, giving heat-resistant products, have unit I (R = H, lower alkyl). Thus, 50.4 g p-ClCH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CH<sub>2</sub> was added dropwise to a mixture of o-cresol novolak resin 35.1, DMSO 82, and NaOH 13.6 parts, then heated at 30-40° to give 66.5 g resin showing gel time at 180° 100 s. Cured products of the resin obtained by heating at 200° for 7 h showed glass transition temperature 190° and thermal decomposition temperature 417°.

IC ICM C08G008-36  
 ICS C08G008-04

CC 37-3 (Plastics Manufacture and Processing)

IT Phenolic resins, compounds  
 RL: USES (Uses)  
 (novolak, cresol-based, vinylbenzyl ethers, manufacture of, curable, giving heat-resistant cured products)

IT 1592-20-7DP, ethers with cresol novolak resins 25053-96-7DP,  
 vinylbenzyl ethers 30030-25-2DP, ethers with cresol novolak resins  
 RL: PREP (Preparation)  
 (manufacture of, curable, giving heat-resistant cured products)

IT 123450-06-6P  
 RL: PEP (Physical, engineering or chemical process); PREP (Preparation);  
 PROC (Process)  
 (manufacture of, heat-resistant)

IT 25053-96-7DP, vinylbenzyl ethers  
 RL: PREP (Preparation)  
 (manufacture of, curable, giving heat-resistant cured products)

RN 25053-96-7 HCAPLUS

CN Formaldehyde, polymer with 2-methylphenol (CA INDEX NAME)

CM 1

CRN 95-48-7

CMF C7 H8 O



CM 2

CRN 50-00-0

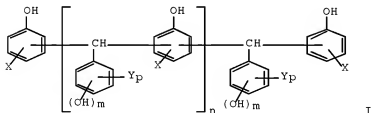
CMF C H2 O

H<sub>2</sub>C=O

L55 ANSWER 65 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1988:95558 HCAPLUS Full-text  
 DN 108:95558  
 OREF 108:15725a,15728a  
 TI Polyphenol-polymaleimide thermosetting resin compositions  
 IN Kanayama, Kaoru; Onuma, Yoshinobu  
 PA Mitsubishi Petrochemical Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62169825	A	19870727	JP 1986-11374	19860122 <--
PRAI JP 1986-11374		19860122	<--	

GI



AB Storage-stable thermosetting comps. giving cured products with excellent heat resistance comprise comps. having  $\geq 2$  maleimide groups 100, polyphenols I (X, Y = H, halo, Cl-4 alkyl, alkoxy; n = 0-10; m, p = 1-2) 5-100, and crosslinking catalysts 0.1-10 parts. Thus, p-hydroxybenzaldehyde 61, PhOH 188.2, and HCl 0.6 g were mixed and heated to give a polyphenol, 27.2 parts of which was mixed with 100 parts N,N'-4,4'-diphenylmethanebismaleimide (II) and 2 parts dimethylaminomethylphenol at 150°, and cured at 180° for 3 h, then 230° for 5

h, to give specimens showing heat distortion temperature >300°, bending strength (200°) 7.1 kg/mm<sup>2</sup>, and stiffness (200°) 400 kg/mm<sup>2</sup>.

IC ICM C08G065-40

ICA C08G073-12

CC 37-6 (Plastics Manufacture and Processing)

IT Phenolic resins, preparation

RL: PEP (Physical, engineering or chemical process); PREP (Preparation);

PROC (Process)

(polyimide-, preparation of heat-resistant, storage-stable thermosetting compns. for)

IT 112384-70-0P, N,N'-4,4'-Diphenylmethanebismaleimide-p-

hydroxybenzaldehyde-phenol copolymer 112384-71-1P,

N,N'-4,4'-Diphenylmethanebismaleimide-o-hydroxybenzaldehyde-phenol

copolymer 112384-72-2P, N,N'-4,4'-Diphenylmethanebismaleimide-

phenol-vanillin copolymer 112384-73-3P 112384-74-4P,

m-Cresol-N,N'-4,4'-diphenylmethanebismaleimide-o-hydroxybenzaldehyde

copolymer 112384-75-5P, p-Hydroxybenzaldehyde-phenol-N,N'-m-

phenylenebismaleimide copolymer 112384-76-6P, N,N'-4,4'-Diphenyl

ether bismaleimide-o-hydroxybenzaldehyde-phenol copolymer

RL: PEP (Physical, engineering or chemical process); PREP (Preparation);

PROC (Process)

(preparation of heat-resistant, storage-stable thermosetting compns. for)

IT 112384-70-0P, N,N'-4,4'-Diphenylmethanebismaleimide-p-

hydroxybenzaldehyde-phenol copolymer

RL: PEP (Physical, engineering or chemical process); PREP (Preparation);

PROC (Process)

(preparation of heat-resistant, storage-stable thermosetting compns. for)

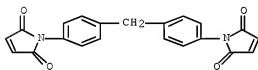
RN 112384-70-0 HCAPLUS

CN Benzaldehyde, 4-hydroxy-, polymer with 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione] and phenol (9CI) (CA INDEX NAME)

CM 1

CRN 13676-54-5

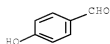
CMF C21 H14 N2 O4



CM 2

CRN 123-08-0

CMF C7 H6 O2



CM 3

CRN 108-95-2

CME C6 H6 O



L55 ANSWER 66 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1988:39005 HCAPLUS Full-text

DN 108:39005

OREF 108:6535a,6538a

TI Thermosetting polymer compositions

IN Ishii, Keiichiro; Suzuki, Kenichi; Shoji, Takechika

PA Sumitomo Bakelite Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62072722	A	19870403	JP 1985-210980	19850926 <--
PRAI	JP 1985-210980		19850926	<--	

AB Title compns. with good curability and moldability, giving cured products with good moisture resistance, high glass temperature, and low thermal expansion, useful for potting semiconductors, contain maleimides, phenolic novolaks, phosphines, and organic peroxides. A mixture containing BMI (a bismaleimide) 19, PR-51470 (phenolic novolak) 10, a 1:4 Ph3P-PR 51470 molten mixture (A) 1.2, dicumyl peroxide (I) 0.3, silica powder 70, and epoxy silane 1, and Zn stearate 2 parts was tranfer-molded at 180° for 2 min and post-cured at 180° for 4 h. The mixture showed gel time 35 s at 170°, compared with 3 min 46 s for a mixture (B) containing 0.3 parts 2-methylimidazole of A without I. The molding using A had glass temperature 252°, thermal-expansion coeffs. 1.5 + 10-5 (100°) and 1.6 + 10-5° C-1 (200°), and flexural strength 9.5 kg/mm2 (200°), compared with 165, 2.0 + 10-5, 6.1 + 10-5, and 1.8, resp., for a molding from B.

IC ICM C08G065-40

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 76

IT Phenolic resins, uses and miscellaneous

RL: MOA (Modifier or additive use); USES (Uses)

(novolak, crosslinking agents, for maleimide compns.)

IT 77918-02-1F 111685-34-8P

RL: PREP (Preparation)

(manufacture of, crosslinking catalysts for, phosphenes and organic peroxides

as)

IT 9093-35-4DP, polymers with maleimides

RL: PREP (Preparation)

(manufacture of, crosslinking catalysts for, phosphines and organic peroxides

as)

IT 77918-02-1F

RL: PREP (Preparation)

KATHLEEN FULLER EIC1700 571/272-2506



(manufacture of, crosslinking catalysts for, phosphenes and organic peroxides as)

RN 77818-02-1 HCAPLUS

CN Formaldehyde, polymer with phenol and 1-phenyl-1H-pyrrole-2,5-dione (9CI)  
(CA INDEX NAME)

CM 1

CRN 941-69-5

CMF C10 H7 N O2



CM 2

CRN 108-95-2

CMF C6 H6 O



CM 3

CRN 50-00-0

CMF C H2 O



L55 ANSWER 67 OF 84 HCAPLUS COPYRIGHT 2008 ACS on SIN

AN 1987:197523 HCAPLUS Full-text

DN 106:197523

OREF 106:32029a,32032a

TI Thermosetting resin compositions

IN Ishii, Keiichiro; Suzuki, Kenichi; Shoji, Takechika

PA Sumitomo Bakelite Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

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PI JP 61233017 A 19861017 JP 1985-73498 19850409 <--  
 JP 06074370 B 19940921  
 PRAI JP 1985-73498 19850409 <--

AB Potting compns. for semiconductor devices having high glass transition temperature (Tg), low thermal expansion, good moisture resistance, and fast curing rate comprise maleimide resins, phenol novolak resins, and phosphines. Thus, a mixture of BMI (bismaleimide from maleic anhydride and 4,4'-diaminodiphenylmethane) 19, PR-51470 (I; phenol-novolac resin) 10, 1:4 Ph3P-I molten mixt 1.5, silica powder 70, epoxysilane 1, and Zn stearate 2 parts exhibiting gel time 38 s at 170° was transfer-molded (180°, 2 min) and postcured at 180° for 4 h to give a sample exhibiting Tg 227°, thermal expansion coefficient at 100° 1.4 + 10-5/K, and water absorption 0.04%, compared with 226 s, 165°, and 2.0 + 10-5/K, resp., for a composition containing 2-methylimidazole instead of Ph3P.

IC ICM C08G065-40

CC 38-3 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 76

IT Phenolic resins, uses and miscellaneous  
 RL: USES (Uses)  
 (novolak, potting compns. containing polymaleimides and, for semiconductor devices, heat-resistant with low thermal expansion)

IT 57013-64-6 108188-92-7  
 RL: USES (Uses)  
 (potting compns., containing phosphine curing catalysts, heat-resistant, with low thermal expansion)

IT 57013-64-6  
 RL: USES (Uses)  
 (potting compns., containing phosphine curing catalysts, heat-resistant, with low thermal expansion)

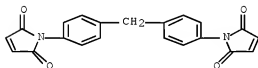
RN 57013-64-6 HCAPLUS

CN Formaldehyde, polymer with 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione] and phenol (9CI) (CA INDEX NAME)

CM 1

CRN 13676-54-5

CMF C21 H14 N2 O4



CM 2

CRN 108-95-2

CMF C6 H6 O



CM 3

CRN 50-00-0

CMF C H2 O

H2C=O

L55 ANSWER 68 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1986:130851 HCAPLUS Full-text

DN 104:130851

OREF 104:20713a,20716a

TI Thermosetting resin compositions

IN Take, Morio; Nagai, Shunichi; Ikeguchi, Nobuyuki

PA Mitsubishi Gas Chemical Co., Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 60184524	A	19850920	JP 1984-41629	19840305 <--
	JP 03052771	B	19910813		
PRAI	JP 1984-41629		19840305 <--		

AB Title compns., which are easily soluble in low-boiling solvents and afford cured materials with good elec. and mech. properties and resistance to heat and humidity, contain (A) reaction products of epoxy compds. having  $\geq 2$  epoxy groups/mol. with diamines, (B) polyfunctional cyanates having  $\geq 2$  cyanato groups/mol. their prepolymers, or their prepolymers with amines, and (C) maleimides having  $\geq 2$  N-maleimido groups/mol., their prepolymers, or their prepolymers with amines. Thus, a prepolymer prepared from 576 parts Epikote 828 and 198 parts bis(4-aminophenyl)methane and 1074 parts bis(4-maleimidophenyl)methane were preheated at 110° and then 1074 parts 2,2-bis(4-cyanatophenyl)propane was added to obtain a curable composition, which was soluble in MEK, MeCOBu-iso, Me Cellosolve, and dioxane at 65% solids. The composition 100, powdered graphitized carbon 50, tert-Bu2O2 0.3, and Zn octoate 0.1 part were uniformly roll kneaded, compression molded, and cured at 230° for 12 h to obtain a good molding with heat distortion temperature 280°, flexural strength 11.5 kg/mm2 and retention 96 initially, and 99, 84, and 77% after heating at 220° for 500, 1000, and 2000 h, resp.

IC ICM C08G073-06

CC 37-6 (Plastics Manufacture and Processing)

IT Phenolic resins, uses and miscellaneous

(epoxy-, reaction products with diamines and polycyanates and bismaleimides, thermosetting, for heat-resistant moldings)

IT 101181-30-0P 101181-31-1P 101181-32-2P

RL: PREP (Preparation)

(preparation of thermosetting, for heat-resistant moldings)

IT 101181-30-0P

RL: PREP (Preparation)

(preparation of thermosetting, for heat-resistant moldings)

RN 101181-30-0 HCAPLUS

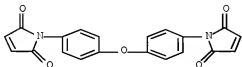
CN Formaldehyde, polymer with (chloromethyl)oxirane, 4,4'-

methylenebis[benzenamine], 2-methylphenol and 1,1'-(oxydi-4,1-phenylene)bis[1H-pyrrole-2,5-dione] (9CI) (CA INDEX NAME)

CM 1

CRN 13132-94-0

CMF C20 H12 N2 O5



CM 2

CRN 106-89-8

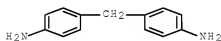
CMF C3 H5 Cl O



CM 3

CRN 101-77-9

CMF C13 H14 N2



CM 4

CRN 95-48-7

CMF C7 H8 O



CM 5

CRN 50-00-0  
CMF C H2 O

H<sub>2</sub>C=O

L55 ANSWER 69 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1984:553162 HCAPLUS Full-text

DN 101:153162

OREF 101:23197a,23200a

TI Copper foil laminates

PA Mitsubishi Gas Chemical Co., Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 59087150	A	19840519	JP 1982-198111	19821111 <--
PRAI	JP 1982-198111		19821111 <--		

AB A SiC cloth treated with a coupling agent is coated with or immersed in a monomer or prepolymer of thermosetting imide resin to give a prepreg forming Cu foil laminates with excellent dimensional stability and heat, moisture, chemical, and wear resistance. Thus, a SiC cloth (Nicalon) treated with an aminosilane coupling agent was impregnated with prepolymer [92183-84-1] from 2,2-bis(4-cyanatophenyl)propane, bis(4-maleimidophenyl) ether, Zn octylate and Bz2O2, and dried to form a B-stage prepreg which was sandwiched between two 35  $\mu$  Cu foils and pressed at 175°/40 kg/cm<sup>2</sup> for 90 min and then at 250°/40 kg/cm<sup>2</sup> for 240 min to give a laminate with solder heat resistance (300°, float) >120 s, longitudinal and transverse dimensional change (after 120 min at 210°) 0.037 and 0.036%, resp., and bending modulus 6800 kg/mm<sup>2</sup>.

IC B32B015-08; C08J005-24

CC 38-3 (Plastics Fabrication and Uses)

IT Phenolic resins, uses and miscellaneous

(epoxy-, imide resin-modified, silicon carbide fiber prepregs., for lamination with copper)

IT 77023-60-0 92183-82-9

RL: USES (Uses)

(silicon carbide fibers impregnated with, for lamination with copper)

IT 92183-82-9

RL: USES (Uses)

(silicon carbide fibers impregnated with, for lamination with copper)

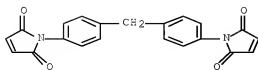
RN 92183-82-9 HCAPLUS

CN Formaldehyde, polymer with (chloromethyl)oxirane, 4,4'-methylenebis[benzenamine], 1,1'-(methylenedi-4,1-phenylene)bis[1H-pyrrole-2,5-dione] and 2-methylphenol (9CI) (CA INDEX NAME)

CM 1

CRN 13676-54-5

CMF C21 H14 N2 O4



CM 2

CRN 106-89-8

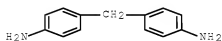
CMF C3 H5 C1 O



CM 3

CRN 101-77-9

CMF C13 H14 N2



CM 4

CRN 95-48-7

CMF C7 H8 O



CM 5

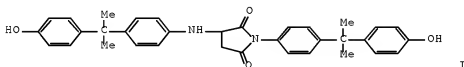
CRN 50-00-0

CMF C H2 O



L55 ANSWER 70 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 1984:424109 HCAPLUS Full-text  
DN 101:24109  
OREF 101:3835a,3838a  
TI Maleimide derivative  
PA Mitsui Toatsu Chemicals, Inc., Japan  
SO Jpn. Kokai Tokkyo Koho, 5 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 59046266	A	19840315	JP 1982-155850	19820909 <--
PRAI	JP 1982-155850		19820909	<--	
GI					



AB I [90578-29-3] forming HCHO copolymer [90588-16-2] curable with hexamethylenetetramine to a plastic having better heat resistance than PhOH-HCHO resins was prepared by treating 2-(4-aminophenyl)-2-(4-hydroxyphenyl)propane [837-11-6] with maleic anhydride [108-31-6] in PhOH at 170-80° for 20 min, in 98.2% yield.

IC C07D207-416; C08G008-08; C08G059-40

CC 35-2 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 27

IT Phenolic resins, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)  
(manufacture of heat-resistant)

IT 90588-16-2P

RL: IMF (Industrial manufacture); PREP (Preparation)  
(manufacture of heat-resistant)

IT 90588-16-2P

RL: IMF (Industrial manufacture); PREP (Preparation)  
(manufacture of heat-resistant)

RN 90588-16-2 HCAPLUS

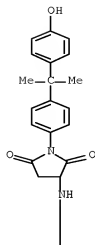
CN Formaldehyde, polymer with 1-[4-[1-(4-hydroxyphenyl)-1-methylethyl]phenyl]-3-[[4-[1-(4-hydroxyphenyl)-1-methylethyl]phenyl]amino]-2,5-pyrrolidinedione (9CI) (CA INDEX NAME)

CM 1

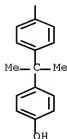
CRN 90578-29-3

CMF C34 H34 N2 O4

PAGE 1-A



PAGE 2-A



CM 2

CRN 50-00-0

CMF C H2 O

 $\text{H}_2\text{C}=\text{O}$ 

L55 ANSWER 71 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 1984:104666 HCAPLUS [Full-text](#)  
DN 100:104666  
OREF 100:15925a,15928a  
TI Flame-resisting phenolic laminate  
PA Toshiba Corp., Japan  
SO Jpn. Kokai Tokkyo Koho, 4 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese

KATHLEEN FULLER EIC1700 571/272-2506



FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 58118829	A	19830715	JP 1982-868	19820108 <--
PRAI	JP 1982-868		19820108	<--	
AB	A substrate is coated with or dipped into a thermosetting resin containing a mixture of water-soluble phenolic resin and $\geq 1$ of the condensation products of cyanuric acid and HCHO or cyanuric acid, PhOH, and HCHO. After drying the treated substrate, the treatment is repeated with use of the phenolic resin until a desired thickness of the laminate is reached. Then the laminate is heated and pressed to give a flame-resisting phenolic laminate. The laminate has superior heat stability, water repellency, insulation resistance, arc resistance, tracking resistance, and heat resistance for soldering. Thus, cyanuric acid reacted with HCHO in presence of NaOH with subsequent dissoln. of the condensate [28474-29-5] in MeOH; Sb2O3-containing cotton linter paper was dipped into the solution. A flame-resistant resin solution (prepared from cashew oil, PhOH, nonylphenol, and formalin) and containing 2,3-dibromophenyl ether of bisphenol A [89004-42-2], was prepared and the pretreated paper was dipped into the solution to give prepregs, 8 of which were pressed with Cu foil at 150° and 100 kg/cm2 for 1 h to give the title laminate.				
IC	C08J005-24; B32B005-22				
CC	38-3 (Plastics Fabrication and Uses) Section cross-reference(s): 76				
IT	Phenolic resins, uses and miscellaneous RL: USES (Uses) (bromine-containing and water-soluble, paper treated with cyanuric acid copolymer and, laminates with copper foil, fire-resistant)				
IT	28474-29-5 31531-41-6 RL: USES (Uses) (paper treated with phenolic resin and, laminates with copper foil, fire-resistant)				
IT	31531-41-6 RL: USES (Uses) (paper treated with phenolic resin and, laminates with copper foil, fire-resistant)				
RN	31531-41-6 HCAPLUS				
CN	Formaldehyde, polymer with phenol and 1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)				
CM	1				
CRN	108-95-2				
CMF	C6 H6 O				



CM 2

CRN 108-80-5

CMF C3 H3 N3 O3



CM 3

CRN 50-00-0

CMF C H2 O

H<sub>2</sub>C=O

L55 ANSWER 72 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1983:180366 HCAPLUS [Full-text](#)

DN 98:180366

OREF 98:27435a,27438a

TI Thermosetting resins

PA Mitsui Toatsu Chemicals, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

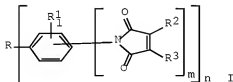
DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 57100111	A	19820622	JP 1980-176583	19801216 <--
	JP 03043286	B	19910702		
	JP 02022314	A	19900125	JP 1989-135268	19890529 <--
	JP 03071447	B	19911113		
PRAI	JP 1980-176583		19801216	<--	

GI



AB Thermosetting resin compns. having excellent heat resistance contain maleimide derivs. (I; R = n-valent C2-200 organic group containing  $\geq 1$  C:C group; R1, R2, R3 = H, C1-20 hydrocarbon group, halogen, R4O, R4CO, R4CONH, OH, CN, NO2, CO2H, hydrocarbon group with halogen, R4O, R4CO, R4CONH, OH, CN, NO2, or CO2H substituent; R4 = C1-20 hydrocarbon group with or without halogen substituent;  $1 \geq 0$ ; m, n  $\geq 1$ ) and allyl compds. For example, 2,4-bis(p-maleimidophenyl)-4-

KATHLEEN FULLER EIC1700 571/272-2506

methyl-1-pentene 40, diallyl phthalate 30, and triallyl isocyanurate 30 parts were mixed and heated at 70° for 20 min, to 180° over 30 min, at 180° for 1 h, and then at 200° for 3 h to give a clear reddish brown cured polymer [83722-87-6] with weight loss 5% at 440°.

IC C08F222-40; C08F299-00

CC 37-3 (Plastics Manufacture and Processing)

IT Epoxy resins, preparation

Phenolic resins, preparation

RL: PREP (Preparation)

(manufacture of maleimide resin-modified)

IT 83722-87-6P 83722-88-7P 83722-90-1P 83722-91-2P 83722-92-3P

83722-93-4P 83722-94-5P 83722-95-6P 83722-96-7P 83722-97-8P

83739-74-6P 83739-75-7P 83739-77-9P 83739-78-0P 83739-79-1P

83739-80-4P 83739-81-5P 83739-82-6P 83739-83-7P

83739-85-9P 83739-86-0P 83739-87-1P 83739-88-2P

83739-89-3P 83739-90-6P 83748-68-9P 83795-25-1P

RL: PEP (Physical, engineering or chemical process); PREP (Preparation);

PROC (Process)

(manufacture of heat-resistant)

IT 83739-82-6P

RL: PEP (Physical, engineering or chemical process); PREP (Preparation);

PROC (Process)

(manufacture of heat-resistant)

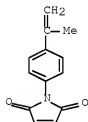
RN 83739-82-6 HCAPLUS

CN Formaldehyde, polymer with 1-[4-(1-methylethenyl)phenyl]-1H-pyrrole-2,5-dione and 2-(2-propenyl)phenol (9CI) (CA INDEX NAME)

CM 1

CRN 73589-53-4

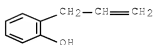
CMF C13 H11 N O2



CM 2

CRN 1745-81-9

CMF C9 H10 O



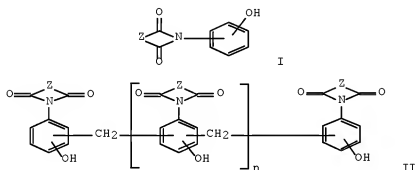
CM 3

CRN 50-00-0  
CMF C H2 O

H<sub>2</sub>C=O

L55 ANSWER 73 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 1982:143937 HCAPLUS Full-text  
DN 96:143937  
OREF 96:23701a,23704a  
TI Poly(imide phenols)  
PA Hitachi, Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 57000112	A	19820105	JP 1980-74362	19800604 <--
	JP 62061050	B	19871219		
PRAI	JP 1980-74362	A	19800604	<--	
GI					

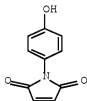


AB Hydroxy imides (I; Z = ethylenically unsatd. group) are treated with aldehydes to give poly(imide phenols)(II; Z is defined; n >0). The polymers are useful for moldings and coatings. Thus, N-(p- hydroxyphenyl)maleimide 104, a 37% aqueous HCHO 48, and oxalic acid 0.3 part were dissolved in 40 parts EtOH, refluxed for 1 h, condensed for 1 h with 0.2 part HCl, and stirred for 30 min at room temperature with 50 parts EtOH to give II (n = 1.5 and Z = CH:CH) [76528-62-6] with softening point 90-95°.

IC C08G008-08  
ICA C08F299-02; C08G065-34  
CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 42  
IT Phenolic resins; preparation  
RL: PREP (Preparation)

KATHLEEN FULLER EIC1700 571/272-2506

(maleimido group-containing, manufacture of oligomeric, for molding)  
IT 76528-62-6  
RL: USES (Uses)  
(oligomeric, for coatings and moldings)  
IT 76528-62-6  
RL: USES (Uses)  
(oligomeric, for coatings and moldings)  
RN 76528-62-6 HCAPLUS  
CN Formaldehyde, polymer with 1-(4-hydroxyphenyl)-1H-pyrrole-2,5-dione (9CI)  
(CA INDEX NAME)  
  
CM 1  
  
CRN 7300-91-6  
CMF C10 H7 N O3



CM 2  
  
CRN 50-00-0  
CMF C H2 O

H<sub>2</sub>C=O

L55 ANSWER 74 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 1981:516417 HCAPLUS Full-text  
DN 95:116417  
OREF 95:19559a,19562a  
TI Aminoplast and phenolic thermosetting resins  
PA Matsushita Electric Works, Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 3 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	JP 56049720	A	19810506	JP 1979-125796	19790928 <--
PRAI	JP 1979-125796	A	19790928	<--	
AB	Thermosetting resins with improved bending workability and with no loss of heat and washing resistances are prepared by reacting an amino compound, such as urea or melamine, or a phenolic compound, such as phenol or cresol, with tris(2-hydroxyethyl) isocyanurate (I) and an aldehyde, such as HCHO, in the presence of a catalyst, preferably a combination of an acid and Na <sub>2</sub> CO <sub>3</sub> , or by				

mixing I with an amino resin, such as urea resin, or a phenolic resin, such as cresol resin.

IC C08G016-02; C08L061-04; C08L061-20; C08K005-34

CC 36-3 (Plastics Manufacture and Processing)

IT Aminoplasts

Phenolic resins, preparation

RL: USES (Uses)

(tris(hydroxyethyl) isocyanurate-modified, manufacture of, with improved bending workability)

IT 26354-12-1P 26354-13-2P 79020-53-4P 79048-15-0P

RL: PREP (Preparation)

(manufacture of, with improved bending workability)

IT 26354-13-2P

RL: PREP (Preparation)

(manufacture of, with improved bending workability)

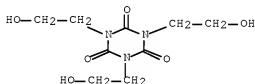
RN 26354-13-2 HCAPLUS

CN Formaldehyde, polymer with phenol and 1,3,5-tris(2-hydroxyethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)

CM 1

CRN 839-90-7

CMF C9 H15 N3 O6



CM 2

CRN 108-95-2

CMF C6 H6 O



CM 3

CRN 50-00-0

CMF C H2 O



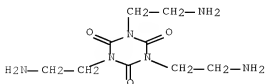
L55 ANSWER 75 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1981:123434 HCAPLUS Full-text  
 DN 94:123434  
 OREF 94:20187a,20190a  
 TI Melamine decorative boards  
 PA Matsushita Electric Works, Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 3 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 55140554	A	19801104	JP 1979-49351	19790420 <--
PRAI	JP 1979-49351	A	19790420	<--	
AB	Paper containing 10-30% lignin is impregnated with formaldehyde-phenol-tris(2-aminoethyl) isocyanurate copolymer (I) [76810-92-9] to prepare prepreps for decorative board having low bending temperature and bendable to acute angles. Thus, kraft paper containing 15% lignin was impregnated to resin pick-up 38% and volatiles content 10% with a varnish having solids content 50% and containing I [prepared from HCHO 1.5, tris(2-aminoethyl) isocyanurate 0.05, and phenol 1 mol], laminated (4 sheets), overlaid with pattern paper impregnated with a varnish containing formaldehyde-melamine copolymer (9003-08-1) to resin pick-up 49% and volatiles content 9%, and pressed at 140° (100 kg/cm <sup>2</sup> ) for 50 min to prepare a decorative board having bending temperature 98° and good resistance to hot water, hot oil, and crazing.				
IC	B32B027-42				
CC	43-7 (Cellulose, Lignin, Paper, and Other Wood Products)				
IT	Phenolic resins, uses and miscellaneous				
	RL: USES (Uses) (impregnation by, of paper, for prepreps, for decorated boards with improved bending properties)				
IT	76810-92-9				
	RL: USES (Uses) (impregnation by, of paper, for prepreps, for decorated boards, with improved bending properties)				
IT	76810-92-9				
	RL: USES (Uses) (impregnation by, of paper, for prepreps, for decorated boards, with improved bending properties)				
RN	76810-92-9 HCAPLUS				
CN	Formaldehyde, polymer with phenol and 1,3,5-tris(2-aminoethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)				

CM 1

CRN 43190-26-7

CMF C9 H18 N6 O3



CM 2

CRN 108-95-2

CMF C6 H6 O



CM 3

CRN 50-00-0

CMF C H2 O

H2C=O

L55 ANSWER 76 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1981:122739 HCAPLUS [Full-text](#)

DN 94:122739

OREF 94:20083a,20086a

TI Decorative melamine resin laminates

PA Matsushita Electric Works, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 55146752	A	19801115	JP 1979-54328	19790502 <--
PRAI	JP 1979-54328	A	19790502	<--	

AB Laminates of melamine resin-impregnated paper with kraft papers with lignin content 10-30% and impregnated with a polymer of 1 mol PhOH with HCHO 1.5-3, tris(2-hydroxyethyl)isocyanurate (I) 0.1-0.5 and dicyanodiamide (II) 0.05-0.5 and (or) p-toluenesulfonamide (III) 0.05-0.4 mol were shapable at low temps. Thus, 1 mol melamine was polymerized with 2.3 mol HCHO and a pattern paper impregnated with the resin [9003-08-1] varnish and dried to give a prepreg (A) with resin content 49%. HCHO (1.6 mol) was polycondensed with I 0.2, III 0.1, II 0.3, and PhOH 1 mol and Kraft paper (containing 25% lignin) was impregnated with the resin [76830-05-2] varnish with solids content 50% and dried to give a prepreg (B) with resin content 38%. One A prepreg and four B prepreps were pressed together for 50 min at 140° to give a decorative laminate with temperature for bending 128°, compared with 159° for a laminate of A prepreg with kraft papers impregnated a polymer of 1 mol PhOH with HCHO 1.6, II 0.1, I 0.2, and III 0.03 mol.

IC B32B027-42; C08J005-24

CC 37-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 43

IT Phenolic resins, uses and miscellaneous

RL: USES (Uses)

(tris(hydroxyethyl)isocyanurate- and dicyanodiamide- and(or)

KATHLEEN FULLER EIC1700 571/272-2506



toluenesulfonamide-modified, paper laminates containing, with reduced temperature  
for bending)

IT 76830-04-1 76830-05-2

RL: USES (Uses)

(paper laminates containing melamine resins and, decorative, with reduced temperature for bending)

IT 76830-04-1

RL: USES (Uses)

(paper laminates containing melamine resins and, decorative, with reduced temperature for bending)

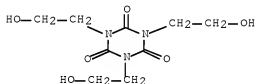
RN 76830-04-1 HCAPLUS

CN Formaldehyde, polymer with cyanoguanidine, phenol and 1,3,5-tris(2-hydroxyethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)

CM 1

CRN 839-90-7

CMF C9 H15 N3 O6



CM 2

CRN 461-58-5

CMF C2 H4 N4



CM 3

CRN 108-95-2

CMF C6 H6 O



CM 4

CRN 50-00-0

CMF C H2 O

H2C=O

L55 ANSWER 77 OF 84 HCAPLUS COPYRIGHT 2008 ACS on SIN

AN 1981:85134 HCAPLUS Full-text

DN 94:85134

OREF 94:13895a,13898a

TI Novolak molding compositions with reduced ammonia odor

PA Matsushita Electric Works, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 55129409	A	19801007	JP 1979-36600	19790327 <--
	JP 61018926	B	19860515		
PRAI	JP 1979-36600	A	19790327	<--	

AB Formaldehyde-4-maleimidophenol copolymer (I) [76528-62-6] prepared in the presence of basic catalysts and novolak phenol-formaldehyde copolymer (II) [9003-35-4] are blended and molded without catalysts to give products with reduced NH3 odor. Thus, a composition of I derived from 4-maleimidophenol 18.9, Et2NH 1.2, 80% HCHO 7.5, and dioxane 160 g (m.p. 145-60°) 20, II derived from 0.79 mol HCHO and 1 mol PhOH in the presence of HCl (m.p. 90°) 100, powdered wood 120, and Zn stearate 5 g was rolled 4 min at 100°, cooled, and ground to give a product having disk flow 125, resistivity 7 + 1011 and 6 + 108 Ω before and after boiling in H2O, flexural strength 10.6 kg/cm2, and extracted NH3 (ASTM D 834) 3 ppm, compared with 130, 5.2 + 1011, 5 + 108, 11.5, and 50, resp., for a similar novolak II compns. containing 15 g hexamethylenetetramine in place of I.

IC C08G008-04; C08L061-06

CC 36-6 (Plastics Manufacture and Processing)

IT Phenolic resins, preparation

RL: PREP (Preparation)

(manufacture of, containing maleimido groups, for crosslinking of novolaks)

IT 76528-62-6

RL: MOA (Modifier or additive use); USES (Uses)

(crosslinking agents, for novolak molding compns., for reduced ammonia odor)

IT 9003-35-4

RL: USES (Uses)

(novolak, crosslinking agents for, maleimidophenol-formaldehyde copolymer as, for reduced ammonia odor)

IT 76528-62-6

RL: MOA (Modifier or additive use); USES (Uses)

(crosslinking agents, for novolak molding compns., for reduced ammonia odor)

RN 76528-62-6 HCAPLUS

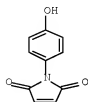
CN Formaldehyde, polymer with 1-(4-hydroxyphenyl)-1H-pyrrole-2,5-dione (9CI)  
(CA INDEX NAME)

CM 1

CRN 7300-91-6

KATHLEEN FULLER EIC1700 571/272-2506

CMF C10 H7 N O3



CM 2

CRN 50-00-0

CMF C H2 O

H<sub>2</sub>C=O

L55 ANSWER 78 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1981:85079 HCAPLUS [Full-text](#)

DN 94:85079

OREF 94:13887a,13890a

TI Heat-resistant phenolic resins

PA Matsushita Electric Works, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 55129408	A	19801007	JP 1979-36599	19790327 <--
	JP 61018925	B	19860515		
PRAI	JP 1979-36599	A	19790327	<--	
AB	Phenolic resins derived from maleimidophenol or its derivs. and aldehydes have good heat resistance. Thus, a mixture of 4-maleimidophenol 18.5, Et <sub>2</sub> NH 1.2, 80% HCHO 7.5, and dioxane 160 g was heated at 100° to give a copolymer [76528-62-6] m. 145-60° and having heat stability superior (by >50°) to that of similarly prepared PhOH-HCHO copolymer.				
IC	C08G008-04				
CC	36-3 (Plastics Manufacture and Processing)				
IT	Phenolic resins, preparation				
	RL: PREP (Preparation)				
	(manufacture of, from maleimidophenol and formaldehyde, with improved heat stability)				
IT	76528-62-6P				
	RL: PREP (Preparation)				
	(manufacture of, with improved heat stability)				
IT	76528-62-6P				
	RL: PREP (Preparation)				
	(manufacture of, with improved heat stability)				
RN	76528-62-6 HCAPLUS				

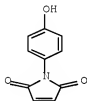
KATHLEEN FULLER EIC1700 571/272-2506

CN Formaldehyde, polymer with 1-(4-hydroxyphenyl)-1H-pyrrole-2,5-dione (9CI)  
(CA INDEX NAME)

CM 1

CRN 7300-91-6

CMF C10 H7 N O3



CM 2

CRN 50-00-0

CMF C H2 O

H<sub>2</sub>C=O

L55 ANSWER 79 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1977:407263 HCAPLUS [Full-text](#)

DN 87:7263

OREF 87:1171a,1174a

TI Adhesives for bonding rubber to metals

IN Ishida, Hiroaki; Kageyama, Kunio; Suzuki, Yasuo; Katsushima, Kenji;  
Iimura, Daisuke

PA Yokohama Rubber Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 52028579	A	19770303	JP 1975-104104	19750829 <--
	JP 59047658	B	19841120		
PRAI	JP 1975-104104	A	19750829	<--	

AB Solns. of copolymers derived from triallyl cyanurate (I) or triallyl isocyanurate, resorcinol (II), and HCHO in aqueous NH<sub>3</sub>, butadiene-styrene-vinylpyridine copolymer (III) [9019-71-0] latex, and optionally, resorcinol-formaldehyde copolymer [24969-11-7] are mixed to give adhesives for bonding metals to rubber. Thus, 110 g II and 25 g I were heated 2 h at 200°, 31 g of 37% HCHO added at 100°, and diluted with 31 g of 28% aqueous NH<sub>3</sub> and 500 g H<sub>2</sub>O to give a 20% solids copolymer (IV) [28410-58-4] solution A 0.94-mm-diameter steel [12597-69-2] wire was coated with a mixture of 40 parts IV solution and 30 parts of a 40% solids III latex, dried 2 min at 100°, and heated 20 min in contact with an unvulcanized natural rubber composition at 170° to form a

bonding having adhesive strength (H test) 130 kg, compared with 4 kg for a similar bonding without IV.

IC B32B025-04

CC 38-15 (Elastomers, Including Natural Rubber)

IT 24969-11-7

RL: USES (Uses)

(adhesives, containing rubber and triallyl cyanurate copolymer, for bonding metals to rubber)

IT 28410-58-4 29320-04-5

RL: USES (Uses)

(adhesives, containing rubber, for bonding metals to rubber)

IT 24969-11-7

RL: USES (Uses)

(adhesives, containing rubber and triallyl cyanurate copolymer, for bonding metals to rubber)

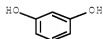
RN 24969-11-7 HCAPLUS

CN Formaldehyde, polymer with 1,3-benzenediol (CA INDEX NAME)

CM 1

CRN 108-46-3

CMF C6 H6 O2



CM 2

CRN 50-00-0

CMF C H2 O



L55 ANSWER 80 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1973:547056 HCAPLUS [Full-text](#)

DN 79:147056

OREF 79:23843a,23846a

TI Thermal and oxidative thermal degradation of crosslinked oligomers of cyanuric acid, p,p'-dihydroxy-2,2-diphenylpropane, and formaldehyde

AU Alaminov, Kh.; Proinova, Z.

CS Bulg.

SO Godishnik na Nauchnoizsledovatel'skiya Institut po Khimicheska Promishlenost (1971), 8(Pt. 1), 289-96

CODEN: GKNKPG; ISSN: 0560-7051

DT Journal

LA Bulgarian

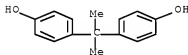
AB Oligomeric cyanuric acid-p,p'-dihydroxy-2,2-diphenylpropane-formaldehyde copolymer [43177-51-1] was crosslinked with 10% hexamethylenetetramine [100-97-0] at 70.deg. for 52 hr, 100.deg. for 5 hr, 130.deg. for 15 hr, 150.deg. for 6 hr, 170.deg. for 8 hr, and 200.deg. for 8 hr. The product was further heated at 200-600.deg. for 60 min and studied by ir, EPR, and elementary anal.

KATHLEEN FULLER EIC1700 571/272-2506

CC 36-5 (Plastics Manufacture and Processing)  
IT Phenolic resins  
RL: USES (Uses)  
(cyanuric acid-modified, degradation of)  
IT 29631-82-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(degradation of, thermal oxidative)  
IT 29631-82-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(degradation of, thermal oxidative)  
RN 29631-82-1 HCAPLUS  
CN Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol] and  
1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)  
  
CM 1  
  
CRN 108-80-5  
CMF C3 H3 N3 O3



CM 2  
  
CRN 80-05-7  
CMF C15 H16 O2



CM 3  
  
CRN 50-00-0  
CMF C H2 O



L55 ANSWER 81 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 1973:98814 HCAPLUS [Full-text](#)  
DN 78:98814  
OREF 78:15861a,15864a  
TI Adhesion of polyesters to rubber

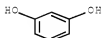
IN Fukuoka, Tokuji; Watanabe, Masaharu; Ogasawara, Isamu; Kawajima, Shigeo  
 PA Unitika Co., Ltd.  
 SO Jpn. Tokkyo Koho, 4 pp.  
 CODEN: JAXXAD  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 47032742	B4	19720821	JP 1969-1874	19690109 <--
AB	A polyester tire cord was treated with a resorcinol-HCHO-latex solution containing a reaction product from a poly(hydroxyalkyl) isocyanurate, resorcinol (I), and HCHO to improve the adhesion of the cord with respect to rubber. Thus, a mixture of 50 g I and 12.5 g tris(2-hydroxyethyl) isocyanurate was heated 30 min at 230.deg. cooled to 90.deg., treated 1 hr with 14 g 37% HCHO, mixed with 14 g 28% aqueous NH4OH and 200 g 80-90.deg. water. The tris(2-hydroxyethyl) isocyanurate-resorcinol-formaldehyde condensate (II) [29034-20-6] solution (7 parts) was mixed with 10 parts solution prepared from I 15, water 100, 37% HCHO 12, and 40% solids vinylpyridine-styrene-butadiene copolymer latex 175 g (pH adjusted to 6.0 with dilute NaOH), and a tire cord was immersed in the mixture to 5% pickup (solids), heated 100 sec at 230.deg.. The H-test result for the cord cured 40 min at 135.deg. with a natural rubber gum stock was 10.2 kg, compared with 3.6 kg for a similar cord treated with an adhesive solution without II.				
IC	B29H; D06M; C09J				
CC	38-13 (Elastomers, Including Natural Rubber)				
IT	Phenolic resins				
	RL: USES (Uses)				
	(adhesives, for polyester cords for rubber tires)				
IT	24969-11-7 29034-20-6				
	RL: USES (Uses)				
	(adhesives, for polyester cords for rubber tires)				
IT	24969-11-7				
	RL: USES (Uses)				
	(adhesives, for polyester cords for rubber tires)				
RN	24969-11-7 HCAPLUS				
CN	Formaldehyde, polymer with 1,3-benzenediol (CA INDEX NAME)				

CM 1

CRN 108-46-3

CMF C6 H6 O2



CM 2

CRN 50-00-0

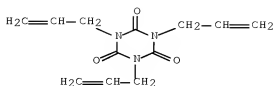
CMF C H2 O

H2C=O

L55 ANSWER 82 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1972:503065 HCAPLUS Full-text  
 DN 77:103065  
 OREF 77:16985a,16988a  
 TI Bonding of polyester materials to rubber  
 IN Fukuoka, Tokuharu; Ogasawara, Isamu; Kawashima, Toshio  
 PA Yunichika Co., Ltd.  
 SO Jpn. Tokkyo Koho, 4 pp.  
 CODEN: JAXXAD  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 46041454	B4	19711207	JP 1968-79107	19681030 <--
AB	A polyester tire cord was coated with a mixture of triallyl isocyanurate-resorcinol-formaldehyde copolymer (I) [29320-04-5], resorcinol-formaldehyde resin (II) [24969-11-7], and vinylpyridine-styrene-butadiene copolymer (III) [9019-71-0] latex and heated to improve its adhesion to rubber. Thus, 50 parts resorcinol (IV) was treated 30 min with 12 parts triallyl isocyanurate at 250.deg., and the mixture was cooled to 90.deg. and treated 1 hr with 14 parts 37% HCHO followed by 200 parts water and 14 parts 28% NH4OH to give a I solution. A solution of 15 parts IV in 150 parts water was mixed with 15 parts 37% HCHO, and the mixture was adjusted to pH 6.0 with 2% NaOH, aged 4 hr at 25.deg., and mixed with 175 parts 40% solids III latex. The I soln (10 parts) and 15 parts of the latex mixture were mixed and applied to a polyester tire cord to 2-8% dry pickup and heated 150 sec at 220.deg.. The cord was cured with a 30:70 natural rubber-SBR blend. The adhesive strength of the cord by an H-test was 11.7-12.0 kg. The I solution was stable and effective >30 days after preparation; a I solution prepared by a conventional method was unstable and effective only during 15 days after preparation				
IC	B29H; C09J; D06M; C08CDG				
CC	38-13 (Elastomers, Including Natural Rubber)				
IT	29320-04-5 RL: USES (Uses) (adhesives, for polyester cords for SBR-natural rubber tire)				
IT	9019-71-0 24969-11-7 RL: USES (Uses) (adhesives, for polyester cords for SBR-natural rubber tires)				
IT	29320-04-5 RL: USES (Uses) (adhesives, for polyester cords for SBR-natural rubber tire)				
RN	29320-04-5 HCAPLUS				
CN	Formaldehyde, polymer with 1,3-benzenediol and 1,3,5-tri-2-propen-1-yl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (CA INDEX NAME)				
CM	1				
CRN	1025-15-6				
CMF	C12 H15 N3 O3				

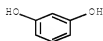




CM 2

CRN 108-46-3

CMF C6 H6 O2



CM 3

CRN 50-00-0

CMF C H2 O



L55 ANSWER 83 OF 84 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1970:531606 HCAPLUS [Full-text](#)

DN 73:131606

OREF 73:21449a,21452a

TI Thermodegradation of polymers with aromatic isocyanuric rings in the chain

AU Alaminov, Khristo; Andonova, N.

CS Nauch.-Issled. Inst. Khim. Prom., Sofia, Bulg.

SO Vysokomolekulyarnye Soedineniya, Seriya A (1970), 12(9), 2129-35

CODEN: VYSAAF; ISSN: 0507-5475

DT Journal

LA Russian

AB The polycondensation of HCHO with Me2C(C6H4OH-4)2 (I), and cyanuric acid (II) in the presence of 1% HCl gave resins of only slightly increased thermal resistance in comparison with resins prepared from I and HCHO only. DTA curves at 200-600°, ir spectra, and EPR spectra of the starting and thermally degraded resins were obtained. Thermal oxidation activation energy was in the 15-20 kcal/mole range. At .apprx.250°, CH2 groups were oxidized; at .apprx.330°, II rings were opened by a free radical process.

CC 36 (Plastics Manufacture and Processing)

IT 25085-75-0 29631-82-1

RL: RCT (Reactant); RACT (Reactant or reagent)  
(degradation of, by heat)

IT 25085-75-0

RL: RCT (Reactant); RACT (Reactant or reagent)  
(degradation of, by heat)

KATHLEEN FULLER EIC1700 571/272-2506

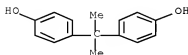
RN 25085-75-0 HCAPLUS

CN Formaldehyde, polymer with 4,4'-(1-methylethylidene)bis[phenol] (CA INDEX NAME)

CM 1

CRN 80-05-7

CMF C15 H16 O2



CM 2

CRN 50-00-0

CMF C H2 O

H<sub>2</sub>C=O

L55 ANSWER 84 OF 84 HCAPLUS COPYRIGHT 2008 ACS on SIN

AN 1968:459957 HCAPLUS Full-text

DN 69:59957

OREF 69:11235a,11238a

TI Adhesives for bonding fibrous material to rubber

IN Aldred, Derek H.; Edington, Robin A.

PA Imperial Chemical Industries Ltd.

SO Brit., 3 pp.

CODEN: BRXXAA

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 1119829		19680717	GB 1964-42976	19641021 <--
	US 3476701		19691104	US	19651108 <--

GI For diagram(s), see printed CA Issue.

AB Adhesive compns. for bonding tire cords to rubber, comprising the products of interaction of a 1,3,5-trialkyl-2,4,6-trioxohexahydro-s-triazine (I) with a substituted phenol, in conjunction with adhesive aids containing natural or synthetic rubber latexes or water-soluble resins of the phenol-aldehyde type or both are provided. Thus, a mixture of 16 parts I (R = allyl) and 67 parts resorcinol was stirred at 130°, and 18.6 parts 37% HCHO added slowly over 2 hrs. The resin obtained was cooled to 100° and an aqueous solution of NH3 (18.6 parts concentrated NH3 in 267 parts water) was added over 5 min. The solution thus obtained was added to an equal volume of a mixture containing resorcinol 50, 37% HCHO 28, water 337, and GenTac (styrene-vinylpyridine-butadiene terpolymer) 585 parts. A tire cord of poly(ethylene terephthalate) of a 2-ply 1000 denier construction twisted together with 11 turns/in. in both the single twisting and plying operation was dipped in the adhesive

composition on a cord treating machine. The tension in the dipping stage was 500 g. and in the heating zone 600 g. The treated cords were molded 20 min. at 150° into uncured natural rubber in a suitable mold, the assemblies were heated to 120°, and the force necessary to pull 1 end of the U out of the rubber was measured at a 30 cm./sec. separation rate (corresponding to a 3.0 lb./sec. rate of loading). The pullout force was 13.5 lb. Similarly, concentrated H2SO4 was incorporated into the mixture to give a cord of pullout force 16.0 lb., 3-methoxyphenol was used in place of resorcinol to give pullout force 18.0 lb., and I (R = Pr) was used to give pullout force 17.0 lb. Also claimed was I (R = octadec-9-en-1-yl).

IC C08G

CC 38 (Elastomers, Including Natural Rubber)

IT 29320-05-6

RL: USES (Uses)

(adhesive compns. containing, for polyester cord for rubbers)

IT 24969-11-7

RL: USES (Uses)

(adhesives containing 1,3,5-trialkyl-2,4,6-trioxohexahydro-s-triazine polymers and, for polyester cords for rubbers)

IT 29320-04-5

RL: USES (Uses)

(adhesives containing, for polyester cord for rubbers)

IT 29320-05-6

RL: USES (Uses)

(adhesive compns. containing, for polyester cord for rubbers)

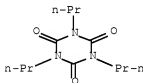
RN 29320-05-6 HCAPLUS

CN Formaldehyde, polymer with 1,4-benzenediol and 1,3,5-tripropyl-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (9CI) (CA INDEX NAME)

CM 1

CRN 4015-16-1

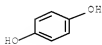
CMF C12 H21 N3 O3



CM 2

CRN 123-31-9

CMF C6 H6 O2



CM 3

CRN 50-00-0  
CMF C H2 O



=>